SEQUENCE LISTING

<110> Collmer, Alan
Alfano, James R.
Charkowski, Amy O.

<120> DNA MOLECULES AND POLYPEPTIDES OF PSEUDOMONAS SYRINGAE HRP PATHOGENICITY ISLAND AND THEIR USES

<130> 19603/3243

<140>
<141>

<150> 60/194,160
<151> 2000-04-03

<150> 60/224,604
<151> 2000-08-11

<150> 60/249,548
<151> 2000-11-17

<160> 91

<170> PatentIn Ver. 2.1

<210> 1
<211> 30365
<212> DNA
<213> Pseudomonas syringae

<220>
<221> unsure
<222> (29734)
<223> n at any position is undefined

<400> 1
ggtaccgggc tctgtgacgc agagcgtcac gcaaggcatt ccactggagc gtgaggaacg 60
ataatcctga cgacaactat cgtgcgacgc tccgcgtcgg catgccgttc tggacgctct 120
gcgtcctgtc ttgagaggtg cgccaagcgc aaagcacggt aagtatcagg gaggggtgta 180
taggagggtt gcaaggcggg aggtgttcat atcaaggcag tgttcatgaa cccgtcttgc 240
ctgggctcat gaacacgttc ggcttacgcg gtcagtgcat ttcctcgctc aaatggtcca 300
gccctgccag catcaactca tgccggtgga tgtcgtccag gctggcgtag gaacccggtt 360
tttcgttgac cgcgtgccac accacaaagt cgcgtcgtac gtccagaaac aggaagtagt 420
gattgaaacg ctctgactcc ataaaacgtc gttgcagtgc atcacgcagt tgatcgggac 480
gcaacgcgcg gccttctatg tgcaaggcga tcccccaatc atggtgttcg cgccgactga 540
caaacgcgac gccattggcc actggccata ctgctgggct ctgggcggca acctgagcgt 600

aaaatgccga cttttccgtt acctcaatca tttctaatcc tttaactgca cgacagtgta 660
atcccgctca tggtcccggt cgtccagacc ttcgcgcatg tcgggcggcc accaaatgac 720
cagctcgcgg ttgttggagt ccgggcgttt gcaagcgttc cccgcacagc cgtgggtggc 780
acaccctgtc agcgtagcaa acagcaagag caagagcgtt aggctacgaa tcatcatggt 840
ttcgctcccc ggagcagtga cggcctgctt tctttggcca ttttagatat ctgcggctgg 900
cgcacagcga tgtacacctc actttcttca cccggctgca gccatgcatg aggccaggcc 960
gcaacgccga tgacccagcg accgccgcat cggctttcgt cgatacgtac cggcttgtcc 1020
gtgttgttac gcgcaaccac cacagcaaca ccccagtctt ttttgacgaa ccactgcgag 1080
cgctgcccat caagcgtcag accttcgccc ggatcacaca gacttcgtgt ttcaaagggc 1140
agggtctggc cagcgcgcag gccttccggg gcggggccgt cgatcatttg ggtaaagact 1200
ttctggatgt cgccccgcgt tggcagtcgg cctccgtcac gtcgttcctt gattttcttc 1260
atctggtcat cgacgtcatg ggggttgccg ttctgtacat agcgtgctgg attgacctga 1320
tcgccgatca gtcgaggggt cagaatgaac agccgctcgc gctgactcag ttcgcgactg 1380
cgggactgga acagcagctt gccgatatag ggaatgtcgc ccaacagcgg gatcttgtga 1440
atcctgtcat tggcttccag accgtggaag ccgccgatga ccagcgagcc gtgctcggca 1500
atcaccgcct gggtgctgac attgcctcgg cgcacactgg gttgggtgtc attgatcgtc 1560
gacacatcga tctggccatc ctcgatgtcc acgatcattt ggacctgagg cttgccatcg 1620
ttgtccagcg aacgcggaat cacttgaagg ctggtgcccg ccgtgatggg cagaatgtca 1680
gcggcccgct cggaagtggg cgtcaggtat tcggtgcgac tgaggtcgat cactgcaggc 1740
tgattctcca gggtcaggat cgacgggttg gcgatgactg acgcagaacc attgccttca 1800
agcgcatgca attcggcaga aaacttgctg gcgttctgca agaacaacgt tgaactggtg 1860
ccgccatcaa acaggttggc acccacctcc gacgctgccg ggcattgaaa ttccagccga 1920
ctggacagtt cagccagttc attggggtcg atgtcgagaa tgaccgcatc gatttcgatc 1980
aggttgcgcg gaacgtccag ctccttgacc agtttctggt acatggcctt gcgctctggc 2040
aggtcgtaaa tcaatacgga gttgttacgc acatcagcgc ttacgcggat attgccttgc 2100
ctgaggcatg acccttggca gtttttttgc tgttgaagtt caatacgcgg tgcaatgccc 2160
ctgttgcagt gctcccgtat cgataccatt ggagcccagg ttgtaaggca ggccggggcc 2220
gcgacacctg tgctgttggc aacactgctg ccctgccccg ccaacaagtt cacgctgtca 2280
atgctttcgc cacgcgaacg gctttccagc agctcttgaa gaatactggc gacaccggcc 2340
accactaact gctggtcacg gtagcgaata gtccgatcag ccgcgttggc gtatttgagt 2400
ggcagcacga caacatcttg cttgtcggcc ttctcgtcgg gcttttcgac tttcttgctg 2460
tagtcgcgca caaactccac gtatttggcc ggaccacgaa ccagaaccac gccttcgtca 2520
ggcagcgagc cccagcccaa acgcttgtca acaagaccga catcggtcag cgccgtttgc 2580
aggtcgtcca ccgcatccgg cgagacttcg atgcgccccg aggtgtgctc gctggaaggg 2640
ctgacataca gcgtgtcgtt atagacgaac cactggaagt ggtattcctg actcagccgc 2700
tcaagaaact cttcagggtt ctgagcacga atacgtccat cgaggtttcc ctggacaggc 2760
gacatgtcga gcgacatacc gaactccctg gcaaagtcag ccagggcagt agacaactcg 2820
gtctgccggg catcataggc gtaggcggtg tgtttccagg cttctggggt gaccgcccac 2880
gtggcaggga tcaccccgat caacaataaa ggcaaccaca ttaaggcctt gcgcatttca 2940
cactcccggt tgccggtgat tgaggatcga acgcccggac aaagtgggcg tcgtgttacg 3000
aatagtggtt tgcatcaggc tgagcatgcc cgcgcgctga ttggccaggc tttccagacg 3060
atcgagcagg tcaccgaggc tgcaggggtt tgccatccag ctgaccagca ctacgcagcg 3120
ggtctgcgga tcgatggcca gcgcgccgtc gcaggcacac gccaggcttg cgccgccctc 3180
gccaagcaag gcttcgagcc gttgcgggtc accggcgtcg tacgggtcga gcagttcgat 3240
actgcaacgc accccgtcgc cgacgaccgc cagccgagca ttggcgtcat cgatccagca 3300
gtccagcggc atcgctggac gctgggcaga ccactggcca acgatctcgg tgaattcact 3360
gaattccatc gatgactgct ttattgatac cgtgcttggc acgcaggcat tcattgacgg 3420
caataccggc gacatcgacc tgctgctggg acatcgtgaa tgcctgcagg tcttcgacgg 3480

tgccactctc ggaggcttcc atcgctgcct ggtccatgtt ggtgtgagca cggctcaccg 3540
aattgtcgag atggcgttgc aagctgttga aactgatcat gtcctggtgc tccagcagaa 3600
gggttcaaac cttgagtgga gcaaacccgc cgagcggttc catcatgcga tcaagtgagt 3660
gcagagagtg tgtatcaggc agcaggctcg acacccagca gcccccttgcg caggtctgcc 3720
caagcgatat cgaacgcgcc attggcatcg ctcagacgca agctgtccga ggcgatcgtt 3780
gcatcgcgct tgagttgcca gtgctcggaa aaacggctgt ctgccagcca ctcagccacg 3840
gggtcggcta tttgggggtg aacactgagc gtcgcgaccg cttcattgag ctggctggcg 3900
gccaggtttc tggccagcgc ccgcgcacgt tcggccagcg tggtgtcgtc taacaagtgc 3960
cgcagggatt cactcaacag ttcttctacg gcggtcattg cctgctcctg caacgcctcg 4020
cgctgcacct gaagctcgcc gagaaacgcg ttggcgtttt cccagaactg cgccagcgcc 4080
tgctgctgaa ggtgctcggc tttctcttgc tcaagggcca gtatctgcgt ggcctgctgc 4140
cgcgcgtctg ccaggatgtc gcgcgccagc aggctgtcgg cgatgtcttc gcggcgcaag 4200
atcggttcgc gcagcagcgt agcggccgtc agagcaatac tgcgtttggc gagcatgggc 4260
gtattcctga tgcagagaag ctggttcgga ttcaggcagc cgtgacgcgc cacatgatgg 4320
cctgccataa cgcctgaagt ttgttttcgg gtgccttgcc gggggtgtcg ggcacttcat 4380
tgggcgggca ctccagacac agtcgcgacc agtattgcgg cccaagccag gcgcccagca 4440
gaagacgcgc gtcctcgtgt tcaaactcca gccagacacc ggggcgcagc gctttggtca 4500
acccccagca ccattgaccg tcaggtccgt cgctttcgtt acgggagaag cagatgcact 4560
gcgccaggct tagcgcctgc tcacgctgcg agggcgtcag cgccaaccag cgcagcaccg 4620
gttccgcggg cgctggcggc tgagccgggt caatgcccag actctgcaga aacacgccat 4680
gacggctggc catgagcgca tcgcagtcac tgaccgataa cccacgagcg ttggcgaatc 4740
ggtcatgcca ctccgaatgt gcccactgcc aggggttgca ccaccagtga atccagtgat 4800
cctcggcaga aaggctcatc atgcacgtgc cggcagcgtt gaacgaccgc gactgccaaa 4860
cccgatccgt cgcaacagac tggcgcgcca gtcactgcgc accagcagtg caccgatcag 4920
caacaccaac gcaagaccga caggtgccac ccagagcatc aggttccaga acggcaagtt 4980
cgtgctgtcc agcttgaagg gcccgaagct cacccattgc gtggtctctt ggaactctgc 5040
agcaggcaca aacacgatgg aaaacttttt cgaatcgaca gattgcgtgg acataccggg 5100
aatactgctg gcgaccatct gttgaatacg tccgcgcaca ctgtcgggat caagtgcagc 5160
agagtgcttg atgaacaccg cagcagaagc cggttgaaca ggttcgcccg gcgcgatgcg 5220
ctcgggcagc accacatgca ccctggccac aatgactccg tcgatctgcg acagcgtggc 5280
ttcaagttcc tgggacaagg cgtagatgta acgggcacgc tcttcaagcg gcgtcgaaat 5340
cacccttcc ttcttgaaaa tctcccccag cgtggtgcgc gagcgccgag gcagacccgc 5400
agcgtcgagc acgcgcacgg cgcggttcat ttcgctggtg gcgacagtca cgacaacgcc 5460
ggttttctcc agacgtttac gcgcatcgat atgctgatcg gcgaggcgcg ctacgacctc 5520
attggaatcc tgctcggaca agccagtgaa caaatcagtc tcatcactgc agccgccgag 5580
cagcagcatg cacaacagca gcagccctgc gctcagaaaa ttcacggaaa cctctactgc 5640
aggttggtca acttgtcgag cgcctgagcg ctcttgctca cgaccttggt cgtcaacgcc 5700
atttgcaacg agcactgcga caacgcccga ctcatctgca cgatgtctcc aggatcttcg 5760
gtgttcgaca ctttcttcat ctggcgtaat gcttgctgtg aaagcttctc ggtactgccc 5820
agccgctcgg acagcgcact ggctatccgg tcggacaggt gcgacgctgc tggcccgctg 5880
tcagggcgca tcgccgcatt gaataggtcg acatccgcct gaacgggttc ggagccgagc 5940
ccctgatgag cattctgccc aagctccggc gatacacttt tcaaattgct gagttgggaa 6000
atggtcacac tggttctccg tcaggcggct gtcagtcagg ccacagcctg gttagtctgg 6060
ttattggtgc cttgcaacag cgcattgatc agctgagctg ccacttgcgc agcgctcgat 6120
tgcaggtcgg cgccggtgtt gccagcatcc tgaagcgtcg cttccagccc gcgttgacgc 6180
aagccgctca gcagttgacc caggtcctga ttggacacgt tgcccgtcgg gttagccact 6240
ggcgtgccac ctgtcggctg cgtggaattg tcgaccggtg taccaagacc accacccgac 6300
gaaaccgact gcaaaccacg gtcgatgagt tgaccgatca gttgacctac gtcgacgctg 6360

gcattgccat tggccgcggg acctgtgttg gcatcgattg caggattacc cagggagctg 6420
tcactcacgg gcgaacccag accgccgcca ctggtaacgc cactggcatc accttgttgc 6480
tggccgagct gttgaccaat gacgtcgaga gccgaacgaa actgagcggt ttcctgtgca 6540
tccaggccat tgtcttcctt cagctcgttc atccacgagc cgccgtcccg agtagggaac 6600
tgggccttgt tgtcgtccat gaactgggca acttttttcca gggtcggcat gtcatcactg 6660
gaaaaggttg ttccgccttc accactcggt gtcagcagat cgtccagcac ggctttgccg 6720
aggccgttca ggacctggct catcagatcg gattgcccgg cacccgcgtc gctgctcaga 6780
ccgccaccga cacccgaacc agaacccgcc ccgccaatgc caccgccacc gccacccgcg 6840
ccgatgccgg cagaggcacc gaaattgtcg ccgagctttt cgtggatcag cttgtcgagc 6900
gatgcagtga tgtcatcgat gctgttagcc gacttgccat ccgcagccat ggccttggcg 6960
agcattttgc cgagcggtga ggtttcatcg agctgcccac tttgggtcag cgcctgaacc 7020
agctgatcga tcacagcctt gagctctttg ctggaagtgc tggtgttggc gctcacatcg 7080
ctgttgagcg acacggggaa caatgatgca gaggtttgca acgaactgat gctgttaagt 7140
gcttgcataa aacgcccatc ccaaggtagc ggccccctct gatgaggggg caatcagaaa 7200
taattagtaa ctgatacctt tagcgttcgt cgctgtggca ctgatcttct tgttggtaga 7260
gtcttctttg ccggcctgga tggcgttgag cacgtccatg gtctgcttct tcattgtttc 7320
ctgggcctgc atcgcgatca gcttcgcgcc gttggcgtcg gactctttac tggccttggc 7380
ttgtgcatca accgacaggc tgtcgccggt gcccaaaaga atgtttttct gaagagtggc 7440
gttggaagca accgtgttga caccctgcaa tgcgccgccg acaccgccaa cggcgctgtt 7500
accaaggttg gtgagtttgg aggttaatcc tgcaaatgcg accatgattt gatgcccctt 7560
aagatttacc agcgtgattg cttggtactc actaggtggc agcagcctgc gatacggttc 7620
cagcgtcttt gcaaaaaatc agatctgcaa ttctttgatg cgtcgataga gcgtacgggc 7680
gtggcagtcc agttccaggc ttaccgaatc caaacaattg tcgtggcgct tgagcgactc 7740
ctgaatcagg gctttttcat caactcgcaa ttgcgatttg agcccacagg ccaagtgctc 7800
ttcgccctgc ggctcggcgc ccagcaaggg gaaacccagc acatggcgtt tggctgcagc 7860
cttgagctca cggatattgc cgggccagtc gtggcccagc agcactttgt gcagcagtgg 7920
gcaaacatcg ggaacgggaa caccgagctc cctcgcggcg gcggccgtaa aacgtgtgaa 7980
caggggaact atgcgatcag actggttacg tagcggagga agcttgagtg tcaggacgtt 8040
caggcgaaaa tacagatcgc gacgaaactg cccccgctcg acggcgtcgt ccagcgagca 8100
ttgggcggag gcgatcacgc agatatccag gttgatcgtc gacgtcgaac ccagccgttc 8160
aagcgctcgg gtttccagca ccctcagcaa tttggcttgc agggccagcg gcatgctatc 8220
gatctcatcc aggtacagcg tgccgccctg cgccgcttcg acataaccga ctctggagcg 8280
atcagcgccg gtgtaggcac cgctgaccac gccgaataac tcgctctcgg cgagggactc 8340
cggaatggcc gcgcaattca tcgccaccag gcgcccttg cgggctgaca tctcatgaat 8400
ccgtcgggca atcgtgtctt tgcccgtgcc ggtctcaccc gatagcagca cgtcgatacc 8460
cagttgcgaa atactttcgg caactatccc cagattcgga acccgctcct cgtccagatc 8520
atcctcaaac ctttcatcaa gactcatccc atgaccccca ggacatcaac gttggataac 8580
cacacctgcg tcacagaccc cggacctcgc agagtatcgg cgctgcaact cccagttcct 8640
tcatgcggtg atacagggtg cgtcttggca actccaactc ctgaagcacc gcgtcgaaat 8700
tgtgcctgtg ccgcttcaag gcatcctgga tgagcatttt ctcgatgatg cgcatttgcg 8760
tgcgcagccc cgtggcaggg tcaagcgctt ccacagggtc ggcgcccagc aaggggaagc 8820
cgagtacgaa gcgcttggct gcagacttca attcgcggat gttgcccggc cagtcgtggc 8880
tgagcagcag ctgcacacgc ccgctgtcca gcgcaggagc gggacgtccg aactcggcag 8940
cgataccctg ggtgaactgg tcgaacaatg gcaggatctg ttcacgacgt ttgcgcaagg 9000
ctggcaagtg aagcgtcagc acgttgagcc gaaaaaacag gtcgcgacgg aaaagtcctt 9060
gttccaccag ttcatccagt ggccgctggg ccgaggcaat gatccgcaga tccaccggga 9120
tgaattcggt cgagcccaga cgctcgatac ctcgactctc caacacacgc agcagtttgg 9180
cctgcaggct caacggcatg ctgtcgattt catccaggta caaggtgcca ccactggagg 9240

cctctatgta gccctcgcga gcccggcata cgccggtgaa tgcaccgttg accacaccga 9300
ataactggct ctctgccagc gactcgggaa tggcggcgca gttcatgccc acaaagggtc 9360
ccgacctgct ggacaactcg tgaatgcggt tggccagtgt gtccttgccg gtgccggttt 9420
ccccgcacaa cagcaagtcc atatccagaa acgcgctatt cattgcaatt tgatgacccg 9480
ctgataatgc agttacgccc caacactctc ggacgtcctt atcgatgcct gtactcatcg 9540
ttgcactctc atggtgggtg gcaagcggag tattaatacc acgtcttaca aggcagaaat 9600
atattaattt agttccccgg gaaatgagaa aaagatcaca aagttgagaa ttactatcat 9660
attaatatca ccataccaag acgaccctac cgatagactc aggctcttga gatgattgct 9720
ttaatctatc gttactccaa tgcgaacaag cgcttacagc gtccatgcgc tggctcgccc 9780
cgcaagccat agggcctctc cacacctcaa agcagctgtg atccgggaca agagcaggca 9840
cctttgagca gcaagcgccc caaaatcgcg caatgaaacg caactaactt ctcgtcacta 9900
ctcgagagaa acatataaga cttttccaaa acaactaaag gggtcacaag taaggaagca 9960
gaagaaaacc gaacacacaa aacaagaaaa ccaaacggtt tttagcggcg agcttaaaga 10020
agcgaacaac aataacacga gaaaacaaaa aacagcctga cactaactat ttgcacttta 10080
gaacagtcga taccaaccag cttagttccg ccccacgagc agtcggattt ccgaacaaca 10140
cagaggcttg gatactggca aagcggtcat agccccggtt tttcggcacc actcagtact 10200
ggcatttagt catcatcgca ttcggcaatc cgaacaaaag cccacctgct tagactattt 10260
ccaggcacag ccatctaagg aatcgcggaa aggattcagc gtagcttaat accggaaccg 10320
caggtttagg ttctgtgaac caggcggtta atacgatcga tgatcgcgtg ccatcaccta 10380
gaatgtttct aaatgtgtgt aatctttcac ttacattcgg ctaaaaaagt tcatcaaaat 10440
aatcatatgt agcgctctac atcatatggc taagcgccat ctttagggtc caaaaaacgg 10500
gtaacgctca ataaaagaag ttgtattgag gcagatcaat attgtccgac aacgagaaaa 10560
agcaccaaaa aagtgcgctt ttcaggggtt ttcaatagaa caatcgagta aaaccggggt 10620
tattggcgtg gatcactggc aaaaaccacg acgcgcggcc ccgtaggcag ctcgcgcgga 10680
ccgctgcgat actcgtcgtc atcacgcttg cgaggcgacg aacggtcatc cctgatgcgg 10740
ggcaactgta tccggtttgt aagcggatca ggttccacaa caggtgcgga ttgggcgatc 10800
tctaccgccg gcgctgattc agctgcagga gctggctgta acgcctcagg cgcagtgggc 10860
tgctgagcca ccggcaacgg ctgagccgtt ttgggcgaag gcaggttctc ggctaactgg 10920
gccgactgca cgggcttggg cagcggcgga cgctctgcaa cgcgcactgg acgctcagcc 10980
acaggcgcgg gcgcgggcag acgctcagcc gcccgtttca caatggctga aggggtgacc 11040
agcgggatgc tggcagtcac cggggactca ccggtaatgc gcgcgatgct ggtcgtgagc 11100
acgcgattct gggttttagg tatcagcaga cgtcccggtc catcgaaggt ctttttgcgc 11160
aggaatgccg agttcagccg caacaactgg ccctcatcca cacccgccgt ggccgcgagc 11220
tgggtcaggt ctacggcatg gttaagctcg actacgtcaa aatacggcgt gttggcgacc 11280
ggggtcagtt tcacaccgta ggcattgggg ttgcgcacaa ccattgagag cgccaacagt 11340
ctgggcacgt aatcctgggt ttccttgggt aaattcagat tccagtagtc cacaggcaga 11400
ccacgccgtc ggttggcctc aatcgcccga ccgacggtgc cctcccccgc gttataggcg 11460
gccagcgcca gcagccagtc attattgaac tgatcatgca agcgggtcag gtaatccatc 11520
gccgccttgc tggaggccac cacgtcacgg cgagcgtcgt aggtcgcgct ttgatgcaga 11580
ttgaagctgc gccccgtgga tggaatgaat tgccacaaac ctgccgcagc ggccggagag 11640
ttggccatgg ggttataaga gctttcgatc atcggcagca gtgccagctc cagcggcatg 11700
ttgcgctcgt ccaggcgctc gacaataaaa tgcagataag ggctggcccg gacactggct 11760
cccgtgataa atccgcgatt gctcagcaac cagtcgcgct ggcgagcgat acgctcattc 11820
atgccttggc catcgaccag cctgcagcgc tgggcaaccc gctgccacac gtcctcgccg 11880
ttataaacag gcagatcgga gattttgtct gcagcccgcg aaccttcctt atcatctccc 11940
ccccaataga ccagccccga caccagccgc ggcggacggt cctgacgcgg cggcgaatag 12000
tccacagact ggcagcccac acacaaggcg cccatagcga ggactgcgat ttgaacagcg 12060
cgagccagca agcgtgggct cgatacgggg aaggcgacgg cgggcatggg cgggaatgtc 12120

ctgagcgtgt ccaccctacg tggcacgctc gccgttacgg ttccctttttg aaaccgagat 12180
cggcgcacac aacgcattgc tgaatccttt cagccgtaag tttttccgat ggaacccgct 12240
ggcattgcat gccactcatc ctgtgaagga attttcacgt ttggtatcag gcggctatca 12300
gcgataaaat ggacagagag attcaccgtg cagtcaccat cgatccaccg gaacaccgga 12360
agcatcattc agccaaccgt cacccctgac gcacgtgctg caactgacct gcaggaaaga 12420
gccgaacaac ccaggcaacg ctcttcgcac tcgttgagca gtgtcggcaa gcgggcgctg 12480
aaaagcgtcg gtaaattgtt ccagaaatcc aaagcgccgc agcagaaagc tgccacgccg 12540
cccaccgcga aaaacgtcaa gacgcccccg cctgcttcaa atgtggctac gcccagaaac 12600
aaagcccgcg aatccggttt ttccaacagc agcccgcaaa atacccatag ggcacccaag 12660
tggattctgc gtaaccaccc caaccaggcg agcagctcgg gcgcgcagac gcatgaaata 12720
cacccggagg cagccccccg taaaaacctg cgcgtaaggt ttgatctgcc gcaagaccgc 12780
cttgagcgca gcccgtcgta cctcgattca gacaacccga tgaccgatga agaagcggtc 12840
gcaaatgcca ctcgccaatt ccggtcacct gacagtcacc tgcagggctc tgacggtacg 12900
cgcatttcaa tgctggccac agatcctgat cagcccagca gctccggcag caaaatcggt 12960
gattcggacg gaccgattcc gccgcgcgag cccatgctgt ggcgcagcaa cggaggccgt 13020
ttcgagctga aagacgaaaa actggttcgc aactcagagc cacaaggcag cattcagctg 13080
gatgccaagg gaaagcctga cttctccacg ttcaatacgc ccggcctggc tccattgctc 13140
gattccattc ttgccacacc caagcaaacc tacctggccc accaaagcaa agacggcgtg 13200
cacgggcacc agttgctaca ggccaacggg cactttctgc acctggcgca agacgacagc 13260
tcgctggccg tgatccgtag cagcaacgaa gcactcctta tagaaggaaa gaaaccaccg 13320
gccgtgaaaa tggagcgtga agacggcaac attcacatcg acaccgccag cggccgcaaa 13380
acccaagagc tcccaggcaa ggcacacatc gctcacatta ccaatgtgct tctcagtcac 13440
gacggcgagc gtatgcgtgt gcatgaggac cgtctctatc agttcgaccc gataagcact 13500
cgctggaaaa taccggaagg cctggaggat accgctttca acagcctgtc cactggcggc 13560
aacggctcgg tttatgcaaa aagtgacgat gccgtggtcg acttgtcgag cccgttcatg 13620
ccgcacgtgg aagtcgaaga cctgcagtca ttttcagtcg cgccggacaa cagagcagcg 13680
ttgctcagcg gcaaaacgac ccaggcgatc ctactgactg acatgagccc ggtgattggc 13740
gggctgacgc cgaaaaaaac caaaggcctt gagctcgacg gcggcaaggc gcaggcggcg 13800
gcggtcggtt tgagtggcga caagctgttt atcgctgaca ctcagggcag actttacagt 13860
gcggaccgta gcgcattcga gggcgatgac ccgaaattga agctgatgcc cgagcaggca 13920
aactttcagc tggaaggcgt gcccctcgga ggccacaacc gcgtcaccgg attcatcaac 13980
ggggacgacg gcggtgttca cgcgctgatc aaaaaccgtc agggcgagac tcactcccac 14040
gctttagacg agcaaagctc aaaactgcaa agcggctgga acctgaccaa tgcgctggta 14100
ctgaacaaca atcgcggcct gaccatgccc ccgccaccca ccgccgctga ccggctcaac 14160
ctcgatcgtg cgggcctggt tggcctgagt gaaggacgca ttcaacgctg ggacgcaacg 14220
ccagaatgct ggaaagacgc aggcataaaa gatatcgatc gcctgcaacg cggcgccgac 14280
agcaatgctt atgtactcaa gggcggcaag ctgcacgcac tcaagattgc ggccgaacac 14340
cccaacatgg cttttgaccg caacacagca ctggcccaga ccgcacgctc gacaaaagtc 14400
gaaatgggca aagagatcga aggcctcgac gaccgagtga tcaaagcctt tgcaatggtc 14460
agcaacaaac gcttcgtcgc cctcgatgac cagaacaagc tgaccgccca cagtaaggat 14520
cacaaacccg tcacactcga cattcccggg ctggaaggcg atatcaagag cctgtcgctg 14580
gacgaaaaac acaacctgca cgccctcacc agtaccggcg ggctttactg cctgcccaag 14640
gaagcctggc aatcgacaaa gctgggggac cagttgcgag cccgctggac gccggttgcg 14700
ctgcccggag ggcagccggt aaaggcactt ttcaccaacg acgacaacgt gctcagcgcc 14760
cagatcgaag acgccgaggg caagggtctt atgcagctca aggcaggcca atggcaaagg 14820
ttcgaacagc gcccggtaga agaaaacggt ttgaatgatg tgcactcgcg catcacaggt 14880
tcaaacaaga cctggcgaat tccaaaaacc gggctgacgc tcagaatgga cgtcaataca 14940
ttcgggcgca gcggtgtgga gaaatccaaa aaagccagca ccagcgagtt catccgcgcc 15000

aacatctaca aaaacaccgc agaaacgccc cgctggatga agaacgtagg tgaccatatt 15060
cagcatcgct accagggtcg cctgggtctg aaagaggttt atgaaaccga gtcgatgctg 15120
ttcaagcaac tggagctgat ccatgagtcc gggggaaggc ctccggcacg gggtcaagac 15180
ctgaaagcgc gcatcaccgc actggaagca aaactggggc ctcaaggcgc tacgctggtc 15240
aaggaactgg aaaccctgcg cgacgagctg gaaaatcaca gctacaccgc gctgatgtcg 15300
atcggtcaga gctatggcaa ggcgaaaaac cttaaacagc aggacggcat tctcaaccag 15360
catggcgagc tggccaagcc gtcggtgcgc atgcagtttg gcaagaagct tgctgatctg 15420
ggcacaaagc tcaacttcaa aagctctgga catgacttgg tcaaggagct gcaggatgcc 15480
ttgactcaag tggctccgtc tgctgaaaac cccaccaaaa agttgctcgg cacgctgaag 15540
catcaagggc tgaaactcag ccaccagaaa gccgacatac ctttgggaca gcgccgcgat 15600
gccagcgagg atcatggcct gagcaaagcg cgcctggcgc tggatctggt cacactgaaa 15660
agccttggcg cgctgctcga ccaggtcgaa cagctaccgc cgcaaagcga catagagccg 15720
ttacaaaaaa agctggcgac gctgcgtgat gtgacttacg gcgaaaaccc ggtcaaggtg 15780
gtcacagaca tgggctttac cgataacaaa gcgctggaaa gcggttacga atcggtcaag 15840
acattcctca agtcgttcaa aaaagcggac catgccgtca gcgtcaatat gcgcgcagcc 15900
acaggcagca aggaccaggc cgagctggcc ggaaaattca aaagcatgct caagcaactg 15960
gagcatggcg acgacgaagt cgggctgcag cgcagctacg gagtgaacct caccaccccg 16020
ttcatcattc ttgccgacaa ggctacaggg ctctggccaa cggcaggtgc caccggtaac 16080
cgtaactaca tactcaatgc cgagcgttgc gagggcggcg ttacgctgta cctcattagc 16140
gaaggtgcgg gaaacgtgag cggcggtttc ggtgccggca aagactactg gccgggcttt 16200
tttgacgcaa ataatcctgc acgcagtgtt gatgtcggca acaaccgcac actgaccccc 16260
aactttcgcc tgggcgtgga cgtgaccgcc accgtcgccg ccagccagcg cgccggggtg 16320
gtcttcaatg ttccggatga agacatcgac gcattcgtcg acgacctgtt tgaaggtcag 16380
ttgaatccat tgcaggtgct gaaaaaagca gtggaccatg agagctacga ggctcggcga 16440
ttcaacttcg acctcacggc aggtggaact gccgatatac gcgccggaat aaacctgacc 16500
gaagaccgag acccgaatgc cgaccccaac agcgattcgt tttctgcggt agtgcgcggc 16560
ggattcgctg cgaacatcac cgttaacctg atgacctaca ccgattattc gttgacccag 16620
aaaaacgaca agaccgaact gaaggaaggc ggtaaaaacc gcccgcgctt tttgaataac 16680
gtgacggccg gcgggcagct tcgcgctcag atcggcggca gccacacggc ccccacaggc 16740
acacccgcct ccgccccagg ccccactccc gcatcacaaa cagccgccaa caacttgggc 16800
ggagcgctca atttcagtgt ggaaaacagg acggtcaaac ggatcaagtt tcgttacaac 16860
gtcgccaagc cgataacgac tgaaggtctg agcaaattgt cgaagggcct tggggaagcg 16920
ttcctggaca acacgaccaa agcaaaactg gcggagctgg ccgaccctct gaatgcacgc 16980
tacacaggca agaaaccgga tgaggttatt caggcgcaac tcgacgggct tgaagaactg 17040
tttgccgaca taccaccgcc caaagacaac gacaagcagt acaaggcatt gcgcgacttg 17100
aaacgcgcgg cggtcgagca tcgggcatca gccaacaagc acagcgtgat ggacaacgca 17160
cgctttgaaa ccagcaaaac caacctctcc ggcctgtcca gtgaaagcat acttaccaaa 17220
ataatgagtt ccgtgcgcga cgcgagcgcc ccgggcaatg cgacaagagt tgccgaattc 17280
atgcgccagg acccgaaact tcgcgccatg ctcaaggaga tggagggcag tatcgggacg 17340
ctggcacgcg tacggctgga accgaaggac tcactggtcg acaagatcga tgaaggcagc 17400
ctcaacggca ccatgactca aagcgacctc tccagcatgc tggaggatcg caacgagatg 17460
cgcatcaagc gtctggtggt attccacacc gcgacccagg ctgaaaactt cacctcacca 17520
acaccgttgg tcagctataa cagtggagcg aatgtgagcg tcactaaaac actggggcgc 17580
atcaacttcg tttatggcgc agaccaggac aagccgattg gttacacctt cgacggcgaa 17640
ttgtcacgac catcggcatc gctcaaggaa gcggctggcg acttgaagaa agaggggttc 17700
gaactgaaga gctaataacg aaaacagtaa aaaaagcgcc gcattgaagt ggcgcttttt 17760
tattcaagcc tgtaaaaaag cacgcgcttc acgtgcctgg gaaatgaacc cgcgcgtcac 17820
gtcacaaaac gctggctcat cgagtgaggc cagttcacgc tgcgcgcata gacggacatc 17880

tccctgatcg accgcaaacc agcagccatg caagcgcgct acgtcgaagt tcagactcaa 17940
cagacgcagc aaatcggggg ctcgttccgg gcagcggcca atgcggcaat gaaagatgac 18000
catctcactg tgctcgggca attcaatgat cgccgcttcg ttgttctgac cgtcataaag 18060
agcgcatacg ccgttctgca aggtcagtga cgtgccgagc tgggcgccca gagaattgat 18120
gaagcgggcg aaatcgggtt gcgaagtttt catcgtcata gtcctttaag gttaaaacag 18180
catgaagcat gccggacagc aggcgcctgc agcctgtgtc cggcgccggg attaacgcgg 18240
gtcaagcaag ccctcttcaa gtgccctcaa tgcgtcatcg tcttttgtcg gctgcttaag 18300
cgcctcgcgt gctgacgcga ctgcgttcaa cacaccttca tccacgaccc gaaccgtatc 18360
cacggccatc tgggtaggca actgcaatgc gcctcgtccc atgtgatagg cgttttccgc 18420
gactcgtggg ataccgctca acgtgctctt ctggaacgta tgtggcagag actccctgtt 18480
cggatgacgg atgttattca aagcgtctcg gtacggtcca gcataggtgt tgcaccgccc 18540
atgcctgccg ctttcaacgc cttggcttct gcggtaaccg actggttggt gtacaacgtg 18600
gacagatagg acaccgaacc cgtcgctgcc agggccatgt tgcgcaaaat agcccccgca 18660
ctgagcgtgc cacttgcgcc ttcagcctga gcggtcacag gcggcagtgc cgaggtcagt 18720
gcagaactct gaatacccga aagagccttg ctgtagaacg tggtgcgtac cgacggctcg 18780
cgcaggtcca tacctttgag caggtccttt ttcagatcgc tctcggcgcg gtccggggta 18840
aataccggaa ttttgcgccc ttgcgggtcg acataattcg acttcaattg cagcagcgtt 18900
tgcgaactgg cagacaccgc cccgccaaaa ccggatgcca gagctcttgc actcagcgtc 18960
tgcccattga tctggtgaac atcgttgagc atctggcgca cagcctgaga accaccgaag 19020
gcactgtaag ccatcagctc acctaccgga tgggtggacg aaccctgaac cttcttctgg 19080
ttcagcagcg cgcgttcact tttcacgaac gccttgtcct gagcgacttc ctcgggcgtt 19140
tttttgacca gctcaccgtg ttcgcttttc agctcgaagg ggtcaggaat aaccgtattg 19200
gtatccacag ccttcattgg caccatgttc aggcgttcgt tgaggccagt cttctgcaag 19260
gcggcctgaa acatcggctt gaccacgctg ttgaccgtct cgtgagcaat gcccgccacc 19320
atcccgatta tcgaagcctt gagcatgttg gcgtcgctgc tggtctcggg aatcgtgtct 19380
cgcagcttgt cgctggtgga caaacgcaca taacccaagt gtgtcattga agacaagaac 19440
tgcggaaccg cagccgcgac aatcggccct gcacctttcc agccacccac cgtgttacgg 19500
gcagtgacga gatcgctgac gacgttgtcc agttgcgtat gtgcggcgac cgaagcaagg 19560
cgcttggcct ccggcgactt gacgaaatcg gcgtgcaaac ctaccagggt ggttttggcg 19620
tcgaccagcg cctgcctgtc agcgtgcaga gactccttgt tgccctgttc ggcatcttgc 19680
agagtgagat ccagcgcact gatgtgctca tccagcgacg cgatgctgtt gctcaggcct 19740
tcgccgattg ccttgcttgc acgaccggcg tattcgccaa gggcagtctg actgacggca 19800
agcgtcgcct tgtccgcttt tgcatgctgg cctaccgttg cgggcgaagc gtcatgcatc 19860
agttgaaagt gctccagttg atcagcgacc gactgagcaa aaccccttgat cagttgcccg 19920
acctcggctt tatccggtat ctgacccggc tgggcgaatt tttccagccg ctgctgcaag 19980
tccgagccct gaaactgctt cagttgatag cgctcaggag acaatttctc ggccatgact 20040
tcaaaaggca aaggctcggc ctgcagcaga ctaccgatca acaacgcagc acgcgaactg 20100
atcatcggcg cgccgctgac cggagccgtc ccatgctcag ccttgaaggc ctgcaaaagc 20160
tgtgtgtgtc gagccgcgac attcagccgc gccgcgccgg cagacgagct ttctgtcgcg 20220
tgtgaccctg actgatcggg agtcagcggc ggattcatgc ctgcagtgac tgcatttggg 20280
tgagctgtct gggcgggaac agtatcgtgc tgctggttta cccggctgag tttgacgcca 20340
ccggccccgc cgatccgcga actgatcatt ggaatctccc aggagccgaa aggctctcgc 20400
gtttggctgc tggggcaaca ggttggtccg tcgaggagcc tgcagttgtg gcctgcccca 20460
tgaatccatg ctcgcgccac tctttggcca ggtcggaaaa cgacttcatc aacaacagca 20520
cgccttcggc agaggctcgt tcaagggcca cagagcccat cagcagcaca cgaccggtct 20580
gcgcattaaa ggaaaatgcc gggctgtggg cgcccgcgaa catgtgaaag ttgatgtcca 20640
tcaacgccag caacgcgctc tcacggccgc gcgcgggcaa cgcgcccatg tcaccgtaga 20700
tcagaacggc acggccttcg tcgcggtcct gaaactgcag ggtgaagtcc acttcgctga 20760

ttttgaaatt ggcagattca tagaaacgtt caggtgtgga aatcaggctg agtgcgcaga 20820
tttcgttgat aagggtgtgg tactggtcat tgttggtcat ttcaaggcct ctgagtgcgg 20880
tgcggacgaa taccagtctt cctgctggcg tgtgcacact gagtcgcagg cataggcatt 20940
tcagttcctt gcgttggttg ggcatataaa aaaaggaact tttaaaaaca gtgcaatgag 21000
atgccggcaa aacgggaacc ggtcgctgcg ctttgccact cacttcgagc aagctcaacc 21060
ccaaacatcc acatccctat cgaacggaca gcgatacggc cacttgctct ggtaaaccct 21120
ggagctggcg tcggtccaat tgcccactta gcgaggtaac gcagcatgag catcggcatc 21180
acaccccggc cgcaacagac caccacgcca ctcgattttt cggcgctaag cggcaagagt 21240
cctcaaccaa acacgttcgg cgagcagaac actcagcaag cgatcgaccc gagtgcactg 21300
ttgttcggca gcgacacaca gaaagacgtc aacttcggca cgcccgacag caccgtccag 21360
aatccgcagg acgccagcaa gcccaacgac agccagtcca acatcgctaa attgatcagt 21420
gcattgatca tgtcgttgct gcagatgctc accaactcca ataaaaagca ggacaccaat 21480
caggaacagc ctgatagcca ggctcctttc cagaacaacg gcgggctcgg tacaccgtcg 21540
gccgatagcg ggggcggcgg tacaccggat gcgacaggtg gcggcggcgg tgatacgcca 21600
agcgcaacag gcggtggcgg cggtgatact ccgaccgcaa caggcggtgg cggcagcggt 21660
ggcggcggca cacccactgc aacaggtggc ggcagcggtg gcacacccac tgcaacaggc 21720
ggtggcgagg gtggcgtaac accgcaaatc actccgcagt tggccaaccc taaccgtacc 21780
tcaggtactg gctcggtgtc ggacaccgca ggttctaccg agcaagccgg caagatcaat 21840
gtggtgaaag acaccatcaa ggtcggcgct ggcgaagtct ttgacggcca cggcgcaacc 21900
ttcactgccg acaaatctat gggtaacgga gaccagggcg aaaatcagaa gcccatgttc 21960
gagctggctg aaggcgctac gttgaagaat gtgaacctgg gtgagaacga ggtcgatggc 22020
atccacgtga aagccaaaaa cgctcaggaa gtcaccattg acaacgtgca tgcccagaac 22080
gtcggtgaag acctgattac ggtcaaaggc gagggaggcg cagcggtcac taatctgaac 22140
atcaagaaca gcagtgccaa aggtgcagac gacaaggttg tccagctcaa cgccaacact 22200
cacttgaaaa tcgacaactt caaggccgac gatttcggca cgatggttcg caccaacggt 22260
ggcaagcagt ttgatgacat gagcatcgag ctgaacggca tcgaagctaa ccacggcaag 22320
ttcgccctgg tgaaaagcga cagtgacgat ctgaagctgg caacgggcaa catcgccatg 22380
accgacgtca aacacgccta cgataaaacc caggcatcga cccaacacac cgagctttga 22440
atccagacaa gtagcttgaa aaaagggggt ggactcgtcg agtccacccc ctttttactg 22500
tttagctaca gctcacagat tgcttacgac cgcataggcc gaaacggtat ttcacttgga 22560
gaagccgccg tgccccccctc ttctatatca gcttcacgag ccgggcgttg acgcaggtta 22620
ttgaccgtat tgcgcaagct ggcgccggta tgggtgatcg cctccccgcc catgtctttg 22680
acggtcttcg ccagtttgac ggtctggtcg gctacgtagc ctgtggtact ggatgcagtc 22740
gatttcaccg tgtcctgtat gaacgactcg gctttttttca ccgcgggatc ggttgtcagc 22800
gcggccgtgg tccagcctgc gaaaacggct gccgaacctg ccaggttggt caactgactg 22860
accgcggcct tggtcgccgg gtcggtgata tttttcgtcg ccatctcctg caacttgcct 22920
acccctgcaa agccacccgc cagggccaga ccgttttggg tcaggctgga cgctgacacc 22980
aggcttctta ccgcacccat tgcgtcggtc gccatatcca gtggcagacc ggccatccgc 23040
ttgccagcgt tgagcgccgc acccgagtag ctggccgatt tgattgcttt ataagcctcg 23100
agccagtcgt tttcttcgct cagttgagcc ttgggctctt tatccttcaa accgagcact 23160
aatgcaccgc cacgctggtg atcacgcgac tgcacactga gcaggcggtt gccaaagcct 23220
gcgttggcag ccagaccacc cgccatcgat acaccaaggt ccacagcacc ctgcacggcg 23280
ggtctggacg ccagtgccgg agccaatacg gtacgtacgg cgttgcgcgc cgagtacgtc 23340
tgaaccgcaa cccccgtgtc cagaacctgt cgagcaaggc ttggcgagtg gcgcttcacc 23400
gaagcggcca tcgcatcgtg gagcctgtcc ggcgaggcgc tcaggtaatg cagatcaccc 23460
gtcgcgcggt ccatcatctt ggtgcccacc tggtccatgg cgcccgacag cgctccggaa 23520
atgagcgggg tcagcggttt gagcggagcc ggcagccaat cgcccttgtt gatcgcaggc 23580
tgcatgtact gaagcaacga ggccatggca aagggcgtcg cccgcaacgc gcctgatgta 23640

gtcgtcgcca atcggtcgag cttttccgcc ttggcgaagg tgtcggcgat ggttgccggg 23700
gtttcccctt cgaagtgcag gcggctggcg cgcgtctcga tcagcgcagt gatctgcgca 23760
ttgtgtacgt caactgcagc ttggccatca gccgaatcgg ccggcggcag tttatgcgca 23820
gcgaacacat gatctgtcag gtaatcggca atcgcattta tctcgcgttg ctgatcggag 23880
ctgacagatc gcacagagct ggaggcaaga gacgcgtcgg acgctgtccg aaagctatcc 23940
gtcgcagtca caggcggttg ttggacgcgt cggttgatgt gcatggaaat tccctctcgt 24000
tctacggaag tttgaacagc gcagtgctga agcgggcgtg tccggagcga ctacttgcgt 24060
gaaagcaata cagtgaactg tcgatcaaac agcgccagaa acagcgaaac gtccggtcgt 24120
ccgccggttt aaaaggatcg acgaaggctg tgtggtcccg gatcggttga cggttccact 24180
gaataatctg cgtacgccca ctaccaagga ctgcgccgaa aaatcaccgt cgtttgtgtt 24240
gcagattacg caaattgaaa ttaagcgagc tttaaggatg gcagcgtaag ttcacaacat 24300
ggcttggcgc ttagcgagta agcgccttct tccaaaccag caaaggagtg ccgcaatgtc 24360
tggtcctttc gagaaaaaat ggcggtgttt cacccgaacc gtgacctacg ttggctggtc 24420
gctgttctgg cttctgctct gggacgtggc cgtcaccgtg gacgtcatgc tgatagaagg 24480
caaaggcatc gacttccccc tgatgcccct cacgttgctt tgctcggcac tgatcgtgct 24540
gatcagcttt cgcaactcga gtgcctataa ccgttggtgg gaagcgcgca ccttgtgggg 24600
cgcaatggtc aacacttcac gcagttttgg ccggcaggta ctgacgctga tcgatggcga 24660
acgggatgac ctcaacaacc ctgtcaaagc catactcttt caacgtcatg tggcttactt 24720
gcgtgccctg cgcgcgcacc tcaaaggcga cgtcaaaaca gcaaaactcg acgggttact 24780
gtcgcccgac gagattcagc gcgccagcca gagcaacaac ttccccaatg acatcctcaa 24840
tggctctgct gcggttatct cgcaagcctt tgccgccggc cagttcgaca gcatccgtct 24900
gacccgcctg gaatcgacca tggtcgatct gtccaactgt cagggcggca tggagcgcat 24960
cgccaacacg ccactgccct acccctacgt ttatttccca cggctgttca gcacgctgtt 25020
ctgcatcctg atgccgctga gcatggtcac caccctgggc tggttcaccc cggcgatctc 25080
cacggtggta ggctgcatgc tgctggcaat ggaccgcatc ggtacagacc tgcaagcccc 25140
gttcggcaac agtcagcacc ggatccgcat ggaagacctg tgcaacacca tcgaaaagaa 25200
cctgcaatcg atgttctctt cgccagagag gcagccgctg ctggctgacc tgaaaagccc 25260
cgtaccgtgg cgcgtggcca acgcatcaat tggcggtctg agcaggcaga aaaacaggtt 25320
aggggaaggc gcgaggctta tcgcaagtga aagtctgctc tgggcaccat ttcgctcagt 25380
tgcagacgtt gctccgtgcc acgccagtgc gtacctacgt cgcgcttgaa cacatcagca 25440
agaaaatggc tcatgttgct gaagctgtct gcctgaacca cgccaaaaag aggatcaaaa 25500
aaatgcagac atccctgact gtcctgatgc agagccatcg catggctatc actcaaaaac 25560
agaagcatct ggtctttacc gggctgcaac actgctttga gatcgcgatc aaggttttcc 25620
agagcaaccg catagtgcgc gtgctgtgct ctgcccagcc cttttccaag tgtcatgccc 25680
aacttgggaa gtgtgtccag aagcataggt gctgcgttct gcaacttgtt tgaataggcc 25740
tgctgctcga tatgctggaa gcccattacc ctgggtagca atgcatcgcc ctgatagtcc 25800
tccagtttgt gaaagaaggc ctcatccgac tgccctttg cacggctctg acaccaattt 25860
actgatagcc ccagacaagc gtgcccgtcg ccacccgcgc ggccatagtc agcagcaaac 25920
gctctatcat cgatagtttt ttcaaataga aatttgctct ggtgaaacgg gtggacaagc 25980
tgacagccgt gctcttgggc aatctttctt ttggcttcga tgttcgcagt cgcgcctatg 26040
ctgttgtccg ccatagcctt gattctggtc ttgatgtatt gcgtggcgcc gtcacgtaat 26100
gaggcgatag agaccatcag atccggtagc agggtacgca acgaatgaag ctggggttgt 26160
acctgctcgg gactgggaag atcagcggca tcgaccgacg aaaaggaaga gcgcgcatcg 26220
aaaaagacct cttcatgccc ctccaatggg acaaaggcgc ccgccttttc gggatgaaaa 26280
cgggcgaacg catccgacga accgggggcg agtccggaca atgacgaggg cttatcgtgt 26340
tgcgtcttag cggcaacccc tgattgggcg ccagattgct ggatatacat aaaccgccct 26400
ctgtcaggtc atgaacgttc gtggggtcag atggacagcc ggtaagaacc gaggctcttt 26460
ctgggcggtt tttccggctt gctcctggcg tcgataatct tccagatagc gctgcaacga 26520

gacggccaat gtgctaattc gcgtcatgag gtgatcaagt ccggtctcat ccagatccgc 26580
cattgagtgc acactgcgca acaacagttc ccttgaatca gggttatagc caagcgcagc 26640
gccacctgtg cgagcaggct ccagattcag cgccattgcc agaatcaaaa tgacgttgtc 26700
ctgcggcatc gtcagccttt cgatctgtgt gaagatgaac aacgaagtgt cctgttctgg 26760
caaccagagc agacactcgc ttccattcgc ggtccttacg ttgtggcgtt gaccctcctg 26820
cgcatcgatg cctcgattgc gcagccactg ataaagccga tcttttgcct cgacaggccg 26880
catggaaatt ccccgctcgt ttaacgatga ttttcctctg tggttcaaga cgtgatgcgg 26940
ttccctttag ggtttgcact aatatcaatg cgattcttgt aaaaatcgac tcgtgagtgc 27000
cgccgatggc aaaggtaacg ggatgggcag cgagtttttg gtaacgttgc cgttgttgca 27060
gggttgaatt tgttgggtga cgttaaaacg aaggaatgta tgcttaaaaa atgcctgcta 27120
ctggttatat caatgtcact tggcggctgc tggagcctga tgattcatct ggacggcgag 27180
cgttgcatct atcccggcac tcgccaaggt tgggcgtggg gaacccataa cggagggcag 27240
agttggccca tacttataga cgtgccgttt tccctcgcgt tggacacact gctgctgccc 27300
tacgacctca ccgcttttct gcccgaaaat cttggcggtg atgaccgcaa atgtcagttc 27360
agtggaggat tgaacgtgct cggttgatcc atatttttac tgcgacagaa gagtgcggcc 27420
ccgacgcttt tggagagcac accagggatt caaacccgcc ttaaaagctt tatatgcgtg 27480
gcatgcacct cgtcaactgc ctgaaagccg caacgtaagt aaaattttgc tccgctcgga 27540
gtatcagtga acaggcgcac ggcgaaaaat tcctgcgccg catgctccac aagtcgattc 27600
accagagtct ttccaaggcc ttgacctctt gatgcgcttg cgacgtataa ccgtcgtagc 27660
ctgcccatat caccccgggc atgcggatca cgcgaaaggc ctccgatacc tgccagagcg 27720
ccgtccagaa gtacgaccat gaggcattca cccttggcct cgaatcgatt ctttccggac 27780
ctccactcct cgatcaagcg ggtaagaaac ctgaagccct ctgctactgc ctcttgctcc 27840
aggatcagaa cctgacaagg caattcagta atgatctgga cttctacctg tttcatctaa 27900
tgacctcatc cacagtggtc ctgcgctggc gaaaacacga gcaggtctgg acagaatgca 27960
tatgcaacag caaaggctgc aaccagtgca caccaccaga accgggttcg acagttaagc 28020
tgatatcatt caagcacctg caagccgagt agaagcacat gaaccgtcgc aagaaaatac 28080
agcaactgtt aaaggctcat gccaagaaag ccagcgctaa actggcaccg gcaaacaaat 28140
ccagctacgt gagcaaggct gatcggttga agctggcggc agagtccggt aacgacccga 28200
tcagttccgt cgaggactga acagcgacgt ttacgcgcca ccggtatggt caggctgttc 28260
attccgatgg agcgtattgc aaggagcctg ttcaacagct cacttacttc gcaaacgagt 28320
actcaccgcc ctgctccagc gcctggcgat acgcaggtct ttcctggcat cgttgtaccc 28380
aggctgcaag gttaggatgc ggctgcagca ttccctgcat tttggcgaat tcgccaatga 28440
agctcatctg aatatccgcg ccactcaatt cgtcgcccag cagataaggc gtcagcccca 28500
gagcttcatt cagatagccc agatagttgg ccagttcaga gtgaatgcgc ggatgcaaag 28560
gcgcgcccgc gtcacccagg cgaccgacgt acaggttgag catcagcggc agaatggccg 28620
aaccttcggc gaagtgcagc cattgtacgt actcatcgta ggtggcgctg gcaggatccg 28680
gttgcaggcg gccgtcgcca tgacggcgga tcaggtaatc gacgatggcg ccagactcga 28740
taaccacatg gggaccgtct tcgatcaccg gggatttgcc cagcggatga atggccttca 28800
gctcaggcgg cgcgaggttg gttttcgggt cgcgctggta gcgttttatc tcgtacggca 28860
ggccaagttc ttcgagtaac cacagaatgc gctgcgaacg tgagttgttc aggtggtgga 28920
caataatcat gtgggtctcc gctgggtgag agtgggatgt ctagaaaaag actgctgggc 28980
cgccgtagag tgccgtgaat cgaatgtcct ctggcgacct cagacgcgtc tgtcggcgca 29040
gagcgctgcc gactcaccgc gaagctgacg ctccactgcc gctttatcga ttaccgacca 29100
aacgccgatt atcttgccat cgctgaatgt gtagaacaca ttttcggaaa aggtgatgcg 29160
ccgtccctgt gtgtcctgcc ccagaaatcg accctgtggc gagcagttga agaccagccg 29220
ggcagcgacc tgtggtgctt caacgaccag caaatcgatc ttgaaacgca agtcggggat 29280
aatcctgacg tcgttttcca gcattgtttt gtagccggaa aggctgatca gctcaccgtt 29340
gtaatgcaca ttgtcatcga cgaagttgcc caactggtgc caactacggt cattcagaca 29400

ggcgatgtaa gcccgatagt gatcggtcag gttcatggcg cgccctcctt caggtgctca 29460
aagcagtcac tgtcaatcat ccagataacc cgcacagttt taacagagtc atagggaact 29520
cgtgcggccg acatcgccct aagcctcaca tctatgtact ggcgcgacgc tggtttcaag 29580
cgaaggactt cagattcatg tcttcaagta gcactacagc agcggctgac acgcaaggtc 29640
ggcaaaacgc ctcgcctaac cgactgattt tcatctccgt acttgtggca accatggcg 29700
cgctcgcgtt tggttatgac accggtatta tcgncggcgc attgcccttc atgacgctgc 29760
cggccgatca gggcgggctg ggtttgaatg cctacagcga agggatgatc acggcttcgc 29820
tgatcgtcgg tgcagccttc ggctcactgg ccagtggcta tatttccgac cgtttcggac 29880
gacgcctgac cctgcgcctc ctgtcggtgc tgttcatcgc gggtgcgctg ggtacggcca 29940
ttgcgccgtc cattccgttc atggtcgccg cgcgcttcct gctgggtatc gcggtgggtg 30000
gcggctcggc gacggtgccg gtgttcattg ccgaaatcgc cggcccctcg cgtcgtgcgc 30060
ggctggtcag ccgcaacgaa ctgatgatcg tcagcggcca gttgctcgcc tatgtgctca 30120
gcgcggtcat ggccgcgctg ctgcacacgc cgggcatctg gcgctatatg ctggcgatcg 30180
cgatggtgcc gggggtgttg ctgctgatcg gcaccttctt cgtacctcct tcgccgngct 30240
ggctggcgtc caaaggccgt tttgacgaag ctcaggatgt gctggagcaa ctgcgcagca 30300
acaaggacga tgcgcancgt gaagtggacg aaatgaaagc tcatgacgag caggcgcgca 30360
atcgt 30365

<210> 2
<211> 1872
<212> DNA
<213> Pseudomonas syringae

<400> 2
atgatcagtt cgcggatcgg cggggccggt ggcgtcaaac tcagccgggt aaaccagcag 60
cacgatactg ttcccgccca gacagctcac ccaaatgcag tcactgcagg catgaatccg 120
ccgctgactc ccgatcagtc agggtcacac gcgacagaaa gctcgtctgc cggcgcggcg 180
cggctgaatg tcgcggctcg acacacacag cttttgcagg ccttcaaggc tgagcatggg 240
acggctccgg tcagcggcgc gccgatgatc agttcgcgtg ctgcgttgtt gatcggtagt 300
ctgctgcagg ccgagccttt gccttttgaa gtcatggccg agaaattgtc tcctgagcgc 360
tatcaactga agcagtttca gggctcggac ttgcagcagc ggctggaaaa attcgcccag 420
ccgggtcaga taccggataa agccgaggtc gggcaactga tcaagggttt tgctcagtcg 480
gtcgctgatc aactggagca ctttcaactg atgcatgacg cttcgcccgc aacggtaggc 540
cagcatgcaa aagcggacaa ggcgacgctt gccgtcagtc agactgccct tggcgaatac 600
gccggtcgtg caagcaaggc aatcggcgaa ggcctgagca acagcatcgc gtcgctggat 660
gagcacatca gtgcgctgga tctcactctg caagatgccg aacagggcaa caaggagtct 720
ctgcacgctg acaggcaggc gctggtcgac gccaaaacca ccctggtagg tttgcacgcc 780
gatttcgtca agtcgccgga ggccaagcgc cttgcttcgg tcgccgcaca tacgcaactg 840
gacaacgtcg tcagcgatct cgtcactgcc cgtaacacgg tgggtggctg gaaaggtgca 900
gggccgattg tcgcggctgc ggttccgcag ttcttgtctt caatgacaca cttgggttat 960
gtgcgtttgt ccaccagcga caagctgcga gacacgattc ccgagaccag cagcgacgcc 1020
aacatgctca aggcttcgat aatcgggatg gtggcgggca ttgctcacga gacggtcaac 1080
agcgtggtca agccgatgtt tcaggccgcc ttgcagaaga ctggcctcaa cgaacgcctg 1140
aacatggtgc caatgaaggc tgtggatacc aatacggtta ttcctgaccc cttcgagctg 1200
aaaagcgaac acggtgagct ggtcaaaaaa acgcccgagg aagtcgctca ggacaaggcg 1260
ttcgtgaaaa gtgaacgcgc gctgctgaac cagaagaagg ttcagggttc gtccacccat 1320
ccggtaggtg agctgatggc ttacagtgcc ttcggtggtt ctcaggctgt gcgccagatg 1380

ctcaacgatg ttcaccagat caatgggcag acgctgagtg caagagctct ggcatccggt 1440
tttggcgggg cggtgtctgc cagttcgcaa acgctgctgc aattgaagtc gaattatgtc 1500
gacccgcaag ggcgcaaaat tccggtattt accccggacc gcgccgagag cgatctgaaa 1560
aaggacctgc tcaaaggtat ggacctgcgc gagccgtcgg tacgcaccac gttctacagc 1620
aaggctcttt cgggtattca gagttctgca ctgacctcgg cactgccgcc tgtgaccgct 1680
caggctgaag gcgcaagtgg cacgctcagt gcgggggcta ttttgcgcaa catggccctg 1740
gcagcgacgg gttcggtgtc ctatctgtcc acgttgtaca ccaaccagtc ggttaccgca 1800
gaagccaagg cgttgaaagc ggcaggcatg ggcggtgcaa cacctatgct ggaccgtacc 1860
gagacgcttt ga 1872

<210> 3
<211> 623
<212> PRT
<213> Pseudomonas syringae

<400> 3
Met Ile Ser Ser Arg Ile Gly Gly Ala Gly Gly Val Lys Leu Ser Arg
1 5 10 15

Val Asn Gln Gln His Asp Thr Val Pro Ala Gln Thr Ala His Pro Asn
20 25 30

Ala Val Thr Ala Gly Met Asn Pro Pro Leu Thr Pro Asp Gln Ser Gly
35 40 45

Ser His Ala Thr Glu Ser Ser Ser Ala Gly Ala Ala Arg Leu Asn Val
50 55 60

Ala Ala Arg His Thr Gln Leu Leu Gln Ala Phe Lys Ala Glu His Gly
65 70 75 80

Thr Ala Pro Val Ser Gly Ala Pro Met Ile Ser Ser Arg Ala Ala Leu
85 90 95

Leu Ile Gly Ser Leu Leu Gln Ala Glu Pro Leu Pro Phe Glu Val Met
100 105 110

Ala Glu Lys Leu Ser Pro Glu Arg Tyr Gln Leu Lys Gln Phe Gln Gly
115 120 125

Ser Asp Leu Gln Gln Arg Leu Glu Lys Phe Ala Gln Pro Gly Gln Ile
130 135 140

Pro Asp Lys Ala Glu Val Gly Gln Leu Ile Lys Gly Phe Ala Gln Ser
145 150 155 160

Val Ala Asp Gln Leu Glu His Phe Gln Leu Met His Asp Ala Ser Pro

```
                165                 170                 175

Ala Thr Val Gly Gln His Ala Lys Ala Asp Lys Ala Thr Leu Ala Val
            180                 185                 190

Ser Gln Thr Ala Leu Gly Glu Tyr Ala Gly Arg Ala Ser Lys Ala Ile
        195                 200                 205

Gly Glu Gly Leu Ser Asn Ser Ile Ala Ser Leu Asp Glu His Ile Ser
    210                 215                 220

Ala Leu Asp Leu Thr Leu Gln Asp Ala Glu Gln Gly Asn Lys Glu Ser
225                 230                 235                 240

Leu His Ala Asp Arg Gln Ala Leu Val Asp Ala Lys Thr Thr Leu Val
                245                 250                 255

Gly Leu His Ala Asp Phe Val Lys Ser Pro Glu Ala Lys Arg Leu Ala
            260                 265                 270

Ser Val Ala Ala His Thr Gln Leu Asp Asn Val Val Ser Asp Leu Val
        275                 280                 285

Thr Ala Arg Asn Thr Val Gly Gly Trp Lys Gly Ala Gly Pro Ile Val
    290                 295                 300

Ala Ala Ala Val Pro Gln Phe Leu Ser Ser Met Thr His Leu Gly Tyr
305                 310                 315                 320

Val Arg Leu Ser Thr Ser Asp Lys Leu Arg Asp Thr Ile Pro Glu Thr
                325                 330                 335

Ser Ser Asp Ala Asn Met Leu Lys Ala Ser Ile Ile Gly Met Val Ala
            340                 345                 350

Gly Ile Ala His Glu Thr Val Asn Ser Val Val Lys Pro Met Phe Gln
        355                 360                 365

Ala Ala Leu Gln Lys Thr Gly Leu Asn Glu Arg Leu Asn Met Val Pro
    370                 375                 380

Met Lys Ala Val Asp Thr Asn Thr Val Ile Pro Asp Pro Phe Glu Leu
385                 390                 395                 400

Lys Ser Glu His Gly Glu Leu Val Lys Lys Thr Pro Glu Glu Val Ala
                405                 410                 415

Gln Asp Lys Ala Phe Val Lys Ser Glu Arg Ala Leu Leu Asn Gln Lys
```

420 425 430

Lys Val Gln Gly Ser Ser Thr His Pro Val Gly Glu Leu Met Ala Tyr
435 440 445

Ser Ala Phe Gly Gly Ser Gln Ala Val Arg Gln Met Leu Asn Asp Val
450 455 460

His Gln Ile Asn Gly Gln Thr Leu Ser Ala Arg Ala Leu Ala Ser Gly
465 470 475 480

Phe Gly Gly Ala Val Ser Ala Ser Ser Gln Thr Leu Leu Gln Leu Lys
485 490 495

Ser Asn Tyr Val Asp Pro Gln Gly Arg Lys Ile Pro Val Phe Thr Pro
500 505 510

Asp Arg Ala Glu Ser Asp Leu Lys Lys Asp Leu Leu Lys Gly Met Asp
515 520 525

Leu Arg Glu Pro Ser Val Arg Thr Thr Phe Tyr Ser Lys Ala Leu Ser
530 535 540

Gly Ile Gln Ser Ser Ala Leu Thr Ser Ala Leu Pro Pro Val Thr Ala
545 550 555 560

Gln Ala Glu Gly Ala Ser Gly Thr Leu Ser Ala Gly Ala Ile Leu Arg
565 570 575

Asn Met Ala Leu Ala Ala Thr Gly Ser Val Ser Tyr Leu Ser Thr Leu
580 585 590

Tyr Thr Asn Gln Ser Val Thr Ala Glu Ala Lys Ala Leu Lys Ala Ala
595 600 605

Gly Met Gly Gly Ala Thr Pro Met Leu Asp Arg Thr Glu Thr Leu
610 615 620

<210> 4
<211> 495
<212> DNA
<213> Pseudomonas syringae

<400> 4
atgaccaaca atgaccagta ccacaccctt atcaacgaaa tctgcgcact cagcctgatt 60
tccacacctg aacgtttcta tgaatctgcc aatttcaaaa tcagcgaagt ggacttcacc 120
ctgcagtttc aggaccgcga cgaaggccgt gccgttctga tctacggtga catgggcgcg 180

ttgcccgcgc gcggccgtga gagcgcgttg ctggcgttga tggacatcaa ctttcacatg 240
ttcgcgggcg cccacagccc ggcattttcc tttaatgcgc agaccggtcg tgtgctgctg 300
atgggctctg tggcccttga acgagcctct gccgaaggcg tgctgttgtt gatgaagtcg 360
ttttccgacc tggccaaaga gtggcgcgag catggattca tggggcaggc cacaactgca 420
ggctcctcga cggaccaacc tgttgcccca gcagccaaac gcgagagcct ttcggctcct 480
gggagattcc aatga 495

<210> 5
<211> 164
<212> PRT
<213> Pseudomonas syringae

<400> 5

```
Met Thr Asn Asn Asp Gln Tyr His Thr Leu Ile Asn Glu Ile Cys Ala
  1               5                  10                  15

Leu Ser Leu Ile Ser Thr Pro Glu Arg Phe Tyr Glu Ser Ala Asn Phe
             20                  25                  30

Lys Ile Ser Glu Val Asp Phe Thr Leu Gln Phe Gln Asp Arg Asp Glu
         35                  40                  45

Gly Arg Ala Val Leu Ile Tyr Gly Asp Met Gly Ala Leu Pro Ala Arg
     50                  55                  60

Gly Arg Glu Ser Ala Leu Leu Ala Leu Met Asp Ile Asn Phe His Met
 65                  70                  75                  80

Phe Ala Gly Ala His Ser Pro Ala Phe Ser Phe Asn Ala Gln Thr Gly
                 85                  90                  95

Arg Val Leu Leu Met Gly Ser Val Ala Leu Glu Arg Ala Ser Ala Glu
            100                 105                 110

Gly Val Leu Leu Leu Met Lys Ser Phe Ser Asp Leu Ala Lys Glu Trp
        115                 120                 125

Arg Glu His Gly Phe Met Gly Gln Ala Thr Thr Ala Gly Ser Ser Thr
    130                 135                 140

Asp Gln Pro Val Ala Pro Ala Ala Lys Arg Glu Ser Leu Ser Ala Pro
145                 150                 155                 160

Gly Arg Phe Gln
```

<210> 6
<211> 1461
<212> DNA
<213> Pseudomonas syringae

<400> 6
atgcacatca accgacgcgt ccaacaaccg cctgtgactg cgacggatag ctttcggaca 60
gcgtccgacg cgtctcttgc ctccagctct gtgcgatctg tcagctccga tcagcaacgc 120
gagataaatg cgattgccga ttacctgaca gatcatgtgt tcgctgcgca taaactgccg 180
ccggccgatt cggctgatgg ccaagctgca gttgacgtac acaatgcgca gatcactgcg 240
ctgatcgaga cgcgcgccag ccgcctgcac ttcgaagggg aaaccccggc aaccatcgcc 300
gacaccttcg ccaaggcgga aaagctcgac cgattggcga cgactacatc aggcgcgttg 360
cgggcgacgc cctttgccat ggcctcgttg cttcagtaca tgcagcctgc gatcaacaag 420
ggcgattggc tgccggctcc gctcaaaccg ctgaccccgc tcatttccgg agcgctgtcg 480
ggcgccatgg accaggtggg caccaagatg atggaccgcg cgacgggtga tctgcattac 540
ctgagcgcct cgccggacag gctccacgat gcgatggccg cttcggtgaa gcgccactcg 600
ccaagccttg ctcgacaggt tctggacacg ggggttgcgg ttcagacgta ctcggcgcgc 660
aacgccgtac gtaccgtatt ggctccggca ctggcgtcca gacccgccgt gcagggtgct 720
gtggaccttg gtgtatcgat ggcgggtggt ctggctgcca acgcaggctt tggcaaccgc 780
ctgctcagtg tgcagtcgcg tgatcaccag cgtggcggtg cattagtgct cggtttgaag 840
gataaagagc ccaaggctca actgagcgaa gaaaacgact ggctcgaggc ttataaagca 900
atcaaatcgg ccagctactc gggtgcggcg ctcaacgctg gcaagcggat ggccggtctg 960
ccactggata tggcgaccga cgcaatgggt gcggtaagaa gcctggtgtc agcgtccagc 1020
ctgacccaaa acggtctggc cctggcgggt ggctttgcag gggtaggcaa gttgcaggag 1080
atggcgacga aaaatatcac cgacccggcg accaaggccg cggtcagtca gttgaccaac 1140
ctggcaggtt cggcagccgt tttcgcaggc tggaccacgg ccgcgctgac aaccgatccc 1200
gcggtgaaaa aagccgagtc gttcatacag gacacggtga aatcgactgc atccagtacc 1260
acaggctacg tagccgacca gaccgtcaaa ctggcgaaga ccgtcaaaga catgggcggg 1320
gaggcgatca cccataccgg cgccagcttg cgcaatacgg tcaataacct gcgtcaacgc 1380
ccggctcgtg aagctgatat agaagagggg ggcacggcgg cttctccaag tgaaataccg 1440
tttcggccta tgcggtcgta a 1461

<210> 7
<211> 486
<212> PRT
<213> Pseudomonas syringae

<400> 7
Met His Ile Asn Arg Arg Val Gln Gln Pro Pro Val Thr Ala Thr Asp
1 5 10 15

Ser Phe Arg Thr Ala Ser Asp Ala Ser Leu Ala Ser Ser Ser Val Arg
20 25 30

Ser Val Ser Ser Asp Gln Gln Arg Glu Ile Asn Ala Ile Ala Asp Tyr
35 40 45

```
Leu Thr Asp His Val Phe Ala Ala His Lys Leu Pro Pro Ala Asp Ser
     50                  55                  60

Ala Asp Gly Gln Ala Ala Val Asp Val His Asn Ala Gln Ile Thr Ala
 65                  70                  75                  80

Leu Ile Glu Thr Arg Ala Ser Arg Leu His Phe Glu Gly Glu Thr Pro
                 85                  90                  95

Ala Thr Ile Ala Asp Thr Phe Ala Lys Ala Glu Lys Leu Asp Arg Leu
            100                 105                 110

Ala Thr Thr Thr Ser Gly Ala Leu Arg Ala Thr Pro Phe Ala Met Ala
        115                 120                 125

Ser Leu Leu Gln Tyr Met Gln Pro Ala Ile Asn Lys Gly Asp Trp Leu
    130                 135                 140

Pro Ala Pro Leu Lys Pro Leu Thr Pro Leu Ile Ser Gly Ala Leu Ser
145                 150                 155                 160

Gly Ala Met Asp Gln Val Gly Thr Lys Met Met Asp Arg Ala Thr Gly
                165                 170                 175

Asp Leu His Tyr Leu Ser Ala Ser Pro Asp Arg Leu His Asp Ala Met
            180                 185                 190

Ala Ala Ser Val Lys Arg His Ser Pro Ser Leu Ala Arg Gln Val Leu
        195                 200                 205

Asp Thr Gly Val Ala Val Gln Thr Tyr Ser Ala Arg Asn Ala Val Arg
    210                 215                 220

Thr Val Leu Ala Pro Ala Leu Ala Ser Arg Pro Ala Val Gln Gly Ala
225                 230                 235                 240

Val Asp Leu Gly Val Ser Met Ala Gly Gly Leu Ala Ala Asn Ala Gly
                245                 250                 255

Phe Gly Asn Arg Leu Leu Ser Val Gln Ser Arg Asp His Gln Arg Gly
            260                 265                 270

Gly Ala Leu Val Leu Gly Leu Lys Asp Lys Glu Pro Lys Ala Gln Leu
        275                 280                 285

Ser Glu Glu Asn Asp Trp Leu Glu Ala Tyr Lys Ala Ile Lys Ser Ala
    290                 295                 300
```

```
Ser Tyr Ser Gly Ala Ala Leu Asn Ala Gly Lys Arg Met Ala Gly Leu
305                 310                 315                 320

Pro Leu Asp Met Ala Thr Asp Ala Met Gly Ala Val Arg Ser Leu Val
                325                 330                 335

Ser Ala Ser Ser Leu Thr Gln Asn Gly Leu Ala Leu Ala Gly Gly Phe
            340                 345                 350

Ala Gly Val Gly Lys Leu Gln Glu Met Ala Thr Lys Asn Ile Thr Asp
        355                 360                 365

Pro Ala Thr Lys Ala Ala Val Ser Gln Leu Thr Asn Leu Ala Gly Ser
    370                 375                 380

Ala Ala Val Phe Ala Gly Trp Thr Thr Ala Ala Leu Thr Thr Asp Pro
385                 390                 395                 400

Ala Val Lys Lys Ala Glu Ser Phe Ile Gln Asp Thr Val Lys Ser Thr
                405                 410                 415

Ala Ser Ser Thr Thr Gly Tyr Val Ala Asp Gln Thr Val Lys Leu Ala
            420                 425                 430

Lys Thr Val Lys Asp Met Gly Gly Glu Ala Ile Thr His Thr Gly Ala
        435                 440                 445

Ser Leu Arg Asn Thr Val Asn Asn Leu Arg Gln Arg Pro Ala Arg Glu
    450                 455                 460

Ala Asp Ile Glu Glu Gly Gly Thr Ala Ala Ser Pro Ser Glu Ile Pro
465                 470                 475                 480

Phe Arg Pro Met Arg Ser
                485
```

<210> 8
<211> 1074
<212> DNA
<213> Pseudomonas syringae

<400> 8
atgtctggtc ctttcgagaa aaaatggcgg tgtttcaccc gaaccgtgac ctacgttggc 60
tggtcgctgt tctggcttct gctctgggac gtggccgtca ccgtggacgt catgctgata 120
gaaggcaaag gcatcgactt ccccctgatg cccctcacgt tgctttgctc ggcactgatc 180
gtgctgatca gctttcgcaa ctcgagtgcc tataaccgtt ggtgggaagc gcgcaccttg 240
tggggcgcaa tggtcaacac ttcacgcagt tttggccggc aggtactgac gctgatcgat 300

```
ggcgaacggg atgacctcaa caaccctgtc aaagccatac tctttcaacg tcatgtggct 360
tacttgcgtg ccctgcgcgc gcacctcaaa ggcgacgtca aaacagcaaa actcgacggg 420
ttactgtcgc ccgacgagat tcagcgcgcc agccagagca acaacttccc caatgacatc 480
ctcaatggct ctgctgcggt tatctcgcaa gcctttgccg ccggccagtt cgacagcatc 540
cgtctgaccc gcctggaatc gaccatggtc gatctgtcca actgtcaggg cggcatggag 600
cgcatcgcca acacgccact gccctacccc tacgtttatt tcccacggct gttcagcacg 660
ctgttctgca tcctgatgcc gctgagcatg gtcaccaccc tgggctggtt caccccggcg 720
atctccacgg tggtaggctg catgctgctg gcaatggacc gcatcggtac agacctgcaa 780
gccccgttcg gcaacagtca gcaccggatc cgcatggaag acctgtgcaa caccatcgaa 840
aagaacctgc aatcgatgtt ctcttcgcca gagaggcagc cgctgctggc tgacctgaaa 900
agccccgtac cgtggcgcgt ggccaacgca tcaattggcg gtctgagcag gcagaaaaac 960
aggttagggg aaggcgcgag gcttatcgca agtgaaagtc tgctctgggc accatttcgc 1020
tcagttgcag acgttgctcc gtgccacgcc agtgcgtacc tacgtcgcgc ttga       1074
```

<210> 9
<211> 357
<212> PRT
<213> Pseudomonas syringae

<400> 9

```
Met Ser Gly Pro Phe Glu Lys Lys Trp Arg Cys Phe Thr Arg Thr Val
  1               5                  10                  15

Thr Tyr Val Gly Trp Ser Leu Phe Trp Leu Leu Leu Trp Asp Val Ala
             20                  25                  30

Val Thr Val Asp Val Met Leu Ile Glu Gly Lys Gly Ile Asp Phe Pro
         35                  40                  45

Leu Met Pro Leu Thr Leu Leu Cys Ser Ala Leu Ile Val Leu Ile Ser
     50                  55                  60

Phe Arg Asn Ser Ser Ala Tyr Asn Arg Trp Trp Glu Ala Arg Thr Leu
 65                  70                  75                  80

Trp Gly Ala Met Val Asn Thr Ser Arg Ser Phe Gly Arg Gln Val Leu
                 85                  90                  95

Thr Leu Ile Asp Gly Glu Arg Asp Asp Leu Asn Asn Pro Val Lys Ala
            100                 105                 110

Ile Leu Phe Gln Arg His Val Ala Tyr Leu Arg Ala Leu Arg Ala His
        115                 120                 125

Leu Lys Gly Asp Val Lys Thr Ala Lys Leu Asp Gly Leu Leu Ser Pro
    130                 135                 140
```

```
Asp Glu Ile Gln Arg Ala Ser Gln Ser Asn Asn Phe Pro Asn Asp Ile
145                 150                 155                 160

Leu Asn Gly Ser Ala Ala Val Ile Ser Gln Ala Phe Ala Ala Gly Gln
                165                 170                 175

Phe Asp Ser Ile Arg Leu Thr Arg Leu Glu Ser Thr Met Val Asp Leu
            180                 185                 190

Ser Asn Cys Gln Gly Gly Met Glu Arg Ile Ala Asn Thr Pro Leu Pro
        195                 200                 205

Tyr Pro Tyr Val Tyr Phe Pro Arg Leu Phe Ser Thr Leu Phe Cys Ile
    210                 215                 220

Leu Met Pro Leu Ser Met Val Thr Thr Leu Gly Trp Phe Thr Pro Ala
225                 230                 235                 240

Ile Ser Thr Val Val Gly Cys Met Leu Leu Ala Met Asp Arg Ile Gly
                245                 250                 255

Thr Asp Leu Gln Ala Pro Phe Gly Asn Ser Gln His Arg Ile Arg Met
            260                 265                 270

Glu Asp Leu Cys Asn Thr Ile Glu Lys Asn Leu Gln Ser Met Phe Ser
        275                 280                 285

Ser Pro Glu Arg Gln Pro Leu Leu Ala Asp Leu Lys Ser Pro Val Pro
    290                 295                 300

Trp Arg Val Ala Asn Ala Ser Ile Gly Gly Leu Ser Arg Gln Lys Asn
305                 310                 315                 320

Arg Leu Gly Glu Gly Ala Arg Leu Ile Ala Ser Glu Ser Leu Leu Trp
                325                 330                 335

Ala Pro Phe Arg Ser Val Ala Asp Val Ala Pro Cys His Ala Ser Ala
            340                 345                 350

Tyr Leu Arg Arg Ala
        355
```

<210> 10
<211> 1053
<212> DNA
<213> Pseudomonas syringae

<400> 10
atgtatatcc agcaatctgg cgcccaatca ggggttgccg ctaagacgca acacgataag 60
ccctcgtcat tgtccggact cgccccggt tcgtcggatg cgttcgcccg ttttcatccc 120
gaaaaggcgg gcgcctttgt cccattggag gggcatgaag aggtcttttt cgatgcgcgc 180
tcttcctttt cgtcggtcga tgccgctgat cttcccagtc ccgagcaggt acaaccccag 240
cttcattcgt tgcgtaccct gctaccggat ctgatggtct ctatcgcctc attacgtgac 300
ggcgccacgc aatacatcaa gaccagaatc aaggctatgg cggacaacag cataggcgcg 360
actgcgaaca tcgaagccaa aagaaagatt gcccaagagc acggctgtca gcttgtccac 420
ccgtttcacc agagcaaatt tctatttgaa aaaactatcg atgatagagc gtttgctgct 480
gactatggcc gcgcgggtgg cgacgggcac gcttgtctgg ggctatcagt aaattggtgt 540
cagagccgtg caaaagggca gtcggatgag gccttctttc acaaactgga ggactatcag 600
ggcgatgcat tgctacccag ggtaatgggc ttccagcata tcgagcagca ggcctattca 660
aacaagttgc agaacgcagc acctatgctt ctggacacac ttcccaagtt gggcatgaca 720
cttggaaaag ggctgggcag agcacagcac gcgcactatg cggttgctct ggaaaacctt 780
gatcgcgatc tcaaagcagt gttgcagccc ggtaaagacc agatgcttct gtttttgagt 840
gatagccatg cgatggctct gcatcaggac agtcagggat gtctgcattt ttttgatcct 900
ctttttggcg tggttcaggc agacagcttc agcaacatga gccattttct tgctgatgtg 960
ttcaagcgcg acgtaggtac gcactggcgt ggcacggagc aacgtctgca actgagcgaa 1020
atggtgccca gagcagactt tcacttgcga taa 1053

<210> 11
<211> 350
<212> PRT
<213> Pseudomonas syringae

<400> 11
Met Tyr Ile Gln Gln Ser Gly Ala Gln Ser Gly Val Ala Ala Lys Thr
1 5 10 15

Gln His Asp Lys Pro Ser Ser Leu Ser Gly Leu Ala Pro Gly Ser Ser
20 25 30

Asp Ala Phe Ala Arg Phe His Pro Glu Lys Ala Gly Ala Phe Val Pro
35 40 45

Leu Glu Gly His Glu Glu Val Phe Phe Asp Ala Arg Ser Ser Phe Ser
50 55 60

Ser Val Asp Ala Ala Asp Leu Pro Ser Pro Glu Gln Val Gln Pro Gln
65 70 75 80

Leu His Ser Leu Arg Thr Leu Leu Pro Asp Leu Met Val Ser Ile Ala
85 90 95

Ser Leu Arg Asp Gly Ala Thr Gln Tyr Ile Lys Thr Arg Ile Lys Ala
100 105 110

Met Ala Asp Asn Ser Ile Gly Ala Thr Ala Asn Ile Glu Ala Lys Arg
115 120 125

Lys Ile Ala Gln Glu His Gly Cys Gln Leu Val His Pro Phe His Gln
130 135 140

Ser Lys Phe Leu Phe Glu Lys Thr Ile Asp Asp Arg Ala Phe Ala Ala
145 150 155 160

Asp Tyr Gly Arg Ala Gly Gly Asp Gly His Ala Cys Leu Gly Leu Ser
165 170 175

Val Asn Trp Cys Gln Ser Arg Ala Lys Gly Gln Ser Asp Glu Ala Phe
180 185 190

Phe His Lys Leu Glu Asp Tyr Gln Gly Asp Ala Leu Leu Pro Arg Val
195 200 205

Met Gly Phe Gln His Ile Glu Gln Gln Ala Tyr Ser Asn Lys Leu Gln
210 215 220

Asn Ala Ala Pro Met Leu Leu Asp Thr Leu Pro Lys Leu Gly Met Thr
225 230 235 240

Leu Gly Lys Gly Leu Gly Arg Ala Gln His Ala His Tyr Ala Val Ala
245 250 255

Leu Glu Asn Leu Asp Arg Asp Leu Lys Ala Val Leu Gln Pro Gly Lys
260 265 270

Asp Gln Met Leu Leu Phe Leu Ser Asp Ser His Ala Met Ala Leu His
275 280 285

Gln Asp Ser Gln Gly Cys Leu His Phe Phe Asp Pro Leu Phe Gly Val
290 295 300

Val Gln Ala Asp Ser Phe Ser Asn Met Ser His Phe Leu Ala Asp Val
305 310 315 320

Phe Lys Arg Asp Val Gly Thr His Trp Arg Gly Thr Glu Gln Arg Leu
325 330 335

Gln Leu Ser Glu Met Val Pro Arg Ala Asp Phe His Leu Arg
340 345 350

<210> 12
<211> 480

<212> DNA
<213> Pseudomonas syringae

<400> 12
atgcggcctg tcgaggcaaa agatcggctt tatcagtggc tgcgcaatcg aggcatcgat 60
gcgcaggagg gtcaacgcca caacgtaagg accgcgaatg gaagcgagtg tctgctctgg 120
ttgccagaac aggacacttc gttgttcatc ttcacacaga tcgaaaggct gacgatgccg 180
caggacaacg tcattttgat tctggcaatg gcgctgaatc tggagcctgc tcgcacaggt 240
ggcgctgcgc ttggctataa ccctgattca agggaactgt tgttgcgcag tgtgcactca 300
atggcggatc tggatgagac cggacttgat cacctcatga cgcgaattag cacattggcc 360
gtctcgttgc agcgctatct ggaagattat cgacgccagg agcaagccgg aaaaaccgcc 420
cagaaagagc ctcggttctt accggctgtc catctgaccc cacgaacgtt catgacctga 480

<210> 13
<211> 159
<212> PRT
<213> Pseudomonas syringae

<400> 13
Met Arg Pro Val Glu Ala Lys Asp Arg Leu Tyr Gln Trp Leu Arg Asn
1 5 10 15

Arg Gly Ile Asp Ala Gln Glu Gly Gln Arg His Asn Val Arg Thr Ala
20 25 30

Asn Gly Ser Glu Cys Leu Leu Trp Leu Pro Glu Gln Asp Thr Ser Leu
35 40 45

Phe Ile Phe Thr Gln Ile Glu Arg Leu Thr Met Pro Gln Asp Asn Val
50 55 60

Ile Leu Ile Leu Ala Met Ala Leu Asn Leu Glu Pro Ala Arg Thr Gly
65 70 75 80

Gly Ala Ala Leu Gly Tyr Asn Pro Asp Ser Arg Glu Leu Leu Leu Arg
85 90 95

Ser Val His Ser Met Ala Asp Leu Asp Glu Thr Gly Leu Asp His Leu
100 105 110

Met Thr Arg Ile Ser Thr Leu Ala Val Ser Leu Gln Arg Tyr Leu Glu
115 120 125

Asp Tyr Arg Arg Gln Glu Gln Ala Gly Lys Thr Ala Gln Lys Glu Pro
130 135 140

Arg Phe Leu Pro Ala Val His Leu Thr Pro Arg Thr Phe Met Thr

145 150 155

<210> 14
<211> 288
<212> DNA
<213> Pseudomonas syringae

<400> 14
atgcttaaaa aatgcctgct actggttata tcaatgtcac ttggcggctg ctggagcctg 60
atgattcatc tggacggcga gcgttgcatc tatcccggca ctcgccaagg ttgggcgtgg 120
ggaacccata acggagggca gagttggccc atacttatag acgtgccgtt ttccctcgcg 180
ttggacacac tgctgctgcc ctacgacctc accgcttttc tgcccgaaaa tcttggcggt 240
gatgaccgca aatgtcagtt cagtggagga ttgaacgtgc tcggttga 288

<210> 15
<211> 95
<212> PRT
<213> Pseudomonas syringae

<400> 15
Met Leu Lys Lys Cys Leu Leu Leu Val Ile Ser Met Ser Leu Gly Gly
1 5 10 15

Cys Trp Ser Leu Met Ile His Leu Asp Gly Glu Arg Cys Ile Tyr Pro
20 25 30

Gly Thr Arg Gln Gly Trp Ala Trp Gly Thr His Asn Gly Gly Gln Ser
35 40 45

Trp Pro Ile Leu Ile Asp Val Pro Phe Ser Leu Ala Leu Asp Thr Leu
50 55 60

Leu Leu Pro Tyr Asp Leu Thr Ala Phe Leu Pro Glu Asn Leu Gly Gly
65 70 75 80

Asp Asp Arg Lys Cys Gln Phe Ser Gly Gly Leu Asn Val Leu Gly
85 90 95

<210> 16
<211> 447
<212> DNA
<213> Pseudomonas syringae

<400> 16
atgaaacagg tagaagtcca gatcattact gaattgcctt gtcaggttct gatcctggag 60

caagaggcag tagcagaggg cttcaggttt cttacccgct tgatcgagga gtggaggtcc 120
ggaaagaatc gattcgaggc caagggtgaa tgcctcatgg tcgtacttct ggacggcgct 180
ctggcaggta tcggaggcct ttcgcgtgat ccgcatgccc ggggtgatat gggcaggcta 240
cgacggttat acgtcgcaag cgcatcaaga ggtcaaggcc ttggaaagac tctggtgaat 300
cgacttgtgg agcatgcggc gcaggaattt ttcgccgtgc gcctgttcac tgatactccg 360
agcggagcaa aatttttactt acgttgcggc tttcaggcag ttgacgaggt gcatgccacg 420
catataaagc ttttaaggcg ggtttga 447

<210> 17
<211> 148
<212> PRT
<213> Pseudomonas syringae

<400> 17
Met Lys Gln Val Glu Val Gln Ile Ile Thr Glu Leu Pro Cys Gln Val
1 5 10 15

Leu Ile Leu Glu Gln Glu Ala Val Ala Glu Gly Phe Arg Phe Leu Thr
20 25 30

Arg Leu Ile Glu Glu Trp Arg Ser Gly Lys Asn Arg Phe Glu Ala Lys
35 40 45

Gly Glu Cys Leu Met Val Val Leu Leu Asp Gly Ala Leu Ala Gly Ile
50 55 60

Gly Gly Leu Ser Arg Asp Pro His Ala Arg Gly Asp Met Gly Arg Leu
65 70 75 80

Arg Arg Leu Tyr Val Ala Ser Ala Ser Arg Gly Gln Gly Leu Gly Lys
85 90 95

Thr Leu Val Asn Arg Leu Val Glu His Ala Ala Gln Glu Phe Phe Ala
100 105 110

Val Arg Leu Phe Thr Asp Thr Pro Ser Gly Ala Lys Phe Tyr Leu Arg
115 120 125

Cys Gly Phe Gln Ala Val Asp Glu Val His Ala Thr His Ile Lys Leu
130 135 140

Leu Arg Arg Val
145

<210> 18
<211> 11458

<212> DNA
<213> Pseudomonas syringae

<220>
<221> unsure
<222> (10940)
<223> n at any position is undefined

<400> 18
ggatccagcg gcgtattgtc gtggcgatgg aacgcgttac ggattttcag cacaccggta 60
tcgatgaaca ggtggccgtt gcgggcgttg cgggtcggca tgacacaatc gaacatatca 120
acgccacggc gcacaccttc gaccagatct tcgggcttgc ctacacccat caagtaacga 180
ggtttgtctg ctggcataag gcccggcagg taatccagca ccttgatcat ctcgtgcttg 240
ggctcgccca ccgacagacc gccaatcgcc aggccgtcaa agccgatctc atccaggcct 300
tcgagcgaac gcttgcgcag gttctcgtgc atgccaccct gaacaatgcc gaacagcgcg 360
gcagtgtttt cgccgtgcgc gaccttggag cgcttggccc agcgcaacga cagctccatg 420
gagacacgtg ctacgtcttc gtcggccggg tacggcgtgc actcatcgaa aatcatcacg 480
acgtccgaac ccaggtcacg ctggacctgc atcgactctt ccgggcccat gaacaccttg 540
gcaccatcga ccggagaggc gaaggtcacg ccctcctcct tgatcttgcg catggcgccc 600
aggctgaaca cctgaaaacc gccagagtcg gtcagaatcg gccctttcca ctgcatgaaa 660
tcgtgcaggt cgccgtggcc cttgatgacc tcggtgcccg gacgcagcca caagtggaag 720
gtgttgccca gaatcatctg cgcaccggtg gcctcgatat cacgcggcaa catgcccttg 780
accgtgccgt aggtgcccac cggcatgaac gccggggtct cgaccacgcc acgcggaaag 840
gtcaggcgac cgcgacgggc cttgccgtcg gtggccaaca actcgaaaga catacgacag 900
gtgcgactca tgcgtgatcc tctggtgccg attcctgtgg ggccgtcggc gcgggattgc 960
gggtgatgaa catggcatca ccgtaactga agaagcggta cccgtgttcg atggccgccg 1020
cgtaggccgc catggtttcg ggataaccgg cgaacgccga aaccagcatc aacagcgtgg 1080
attcaggcaa atgaaaatta gtcaccaggg catcgaccac atgaaacggc cgccccggat 1140
agatgaagat gtcggtgtcg ccgctaaacg gcttcaactg gccatcacgc gcggcactct 1200
ccagcgaacg cacgctggtg gtcccgaccg caatcacccg cccgccccgc gcacggcacg 1260
ccgccacggc atcgaccacg tcctggctga cttccagcca ttcgctgtgc atgtggtgat 1320
cttcgatctg ctcgacacgc accggctgga acgtacccgc gccgacgtgc agagtgacaa 1380
aagcagtctc gacgcccttg gcggcaattg cttccatcaa cggctggtcg aaatgcaggc 1440
cggcagtcgg cgccgccaca gcaccggcgc gctgggcgta aacggtctga taacgctcgc 1500
ggtcggcacc ttcgtccggg cggtctatat aaggaggcaa cggcatatgg ccgacacgat 1560
ccagcaacgg cagcacttct tcggcaaagc gcaactcgaa cagcgcgtca tgccgcgcca 1620
ccatctcggc ctcgccgccg ccatcgatca ggatcgacga gcccggcttt ggcgacttgc 1680
tggcacgcac gtgcgccagc acacgatggc tgtccagcac gcgctcgacc agaatctcca 1740
gcttgccgcc ggacgccttc tgcccgaaca aacgtgcggg aatgacacgg gtattgttga 1800
acaccatcaa gtcgcccgag cgcaaatgct cgagcaaatc ggtgaattga cgatgtgcca 1860
gcgcgcccgt cggcccatca agggtcaaca gacgactgct gcgacgctcg gccaacgggt 1920
gacgagcaat cagggaatcg gggagttcga aggtaaagtc agcgacgcgc atgatcgggt 1980
tcgtttagca gggccgggaa gtttatccgg tttgacggca ttagtaaaaa acctgcgtaa 2040
atccctgttg accaacggaa aactcatcct tatacttcgc cgccattgag ccctgatggc 2100
ggaattggta gacgcggcgg attcaaaatc cgttttcgaa agaagtggga gttcgattct 2160
ccctcggggc accaccattg agaaaagacc ttgaaattca aggtcttttt tttcgtctgg 2220
tggaaagtgg tctgactgag gctgcgatct accccacctg cccggaattg gccgcggagc 2280
gcccaggact gccttccagc gcagagcgtc ggtacccgga tcacacgacc aaggataacg 2340

ctatgaacaa gatcgtctac gtaaaagctt acttcaaacc cattggggag gaagtctcgg 2400
ttaaagtacc tacaggcgaa attaaaaagg gctttttcgg cgacaaggaa atcatgaaaa 2460
aagagaccca gtggcagcaa accgggtggt ctgattgtca gatagacggt gaacggctat 2520
cgaaagacgt cgaagacgca gtggcgcaac tcaatgctga cggttatgag attcaaacgg 2580
tattgcctat attgtccggg gcttatgatt atgcgctcaa ataccgatac gaaatacgtc 2640
acaatagaac tgaactaagc ccaggagacc agtcctatgt cttcggctat ggctacagct 2700
tcaccgaagg cgtgacgctg gtggcgaaaa aatttcagtc gtctgcaagc tgaataatag 2760
tgacctcgtg ccacggacgc cgctctgccc cctgatacga aaacgccttc ctcaacaaga 2820
ggcaggcgta ctaacgtgca caagacctgc ccgtatcagc aagcgcaaga cgctcgcctc 2880
cacgaaataa cacggtaggt cgcgttgcta ctttttagcg gcagacggcg tgccgttgta 2940
gttgtcggtg ttgttgtcgt tatcaagatc gcggtcattt ccaccgaaag ccgcatcggt 3000
tttgttgtcg ttgtcgagat ctttgtcgtt accgccaaac gctgcatccg tatggtgatc 3060
gttgtccagg tccttgtcgt taccccccaaa tgccgcgtcg gtgtggtggt cattgtccat 3120
atccttgtcg ttgccgccaa atgccgcgtc agtcacgttg tcgttatcca gatccttgtc 3180
gttgccgcca cacgtggcac cggtgctgtt gtcgttgtcc agatcacaat cgtttacggc 3240
aaatgcaggt agcgaagtgc caatgatcgt cagcgcaagc agaaagccgc cgatctttgc 3300
cgtcaggttt ttatacgcgc gcatcaggtt ttcccggata agtgaaaatg atgaagcaag 3360
ggttactgaa cacgttcgat cagtgactaa aacagtatgt aactgcagcc ttctgcaaga 3420
ccgacagagg tcgaccaaac tgcagcctgt ttcataccca tcaatttcta tagcgaccgt 3480
tcacacgact ctcctaccga tgctgggagt accaaaaaac ttccgcactg catttttttg 3540
cagtgtcgga tggtttgacc ggttttgggg agaattgctc aaacggagaa cgatgagttt 3600
tttgttgcgt ggcatgctaa tcgatacatt tatcagtgtg tgatgcggta tggcagcttc 3660
atgcctccgt caaatagtgg acgccagtca cgttgcataa aacctgacgt cactccaaaa 3720
aaggctacgc acgaggacat tgctgagatt cggctgggca ttttcgctgt ttacacaggg 3780
atcgagcaga acgcccccat gccagccacc cgttaactca attgtctttt gccctgaaaa 3840
caacaatccc tggcttttcc gatacatagt ccagaaaagg caaatccatc acctttctgt 3900
tttcttttcg tgaagatgca tttcgcaaga cagggccttt atccgtcacg ataaagaaac 3960
cgacgtgtgt cacatccagc ccgggaagcg ggggtgtaaa tgccaatgta atcaccggtg 4020
cgcaggtggc tcaccacctg actgtcgaca aggcggctcg ggatatacgt catgctacgc 4080
tcaaccacag gcaaccctgg cagatagact ttgcctttgg ccctttcatt aaggcgtttt 4140
ctgacactta ccgcaccggg gcttatctgc gcggtaatgt catccgccac agggtatgcc 4200
gttccgtaag cccaatccgt gaaaaagtgc ttgcgattca aaaagtcaac atcgccaccc 4260
ttgtaacgaa cctgaacgag attcctcaca aaatcctgct gcgatgttga tcttcgaaac 4320
gcttcgacgt aatccagata agcaaaacaa tccagacctc tgaagtcgat gactaattgt 4380
tcaggtacat tcgctgagcc caccaacatg tttgagcggt acggtgttcc taaaaacgct 4440
cctgatacaa ggtcgatcag ctgaccttta ttcatataac ttttgttggt gcgggcttcc 4500
agcacagcat ccagtttttt tgaggtgtag gcatccagat ttagtttaac gggtgttttc 4560
atctctgcct gggcaccctg aatatcactt cccggcgccg gccccgaaac cccacaccct 4620
gccaacattg caaaggctaa agcccatagg gtcgtctttt gcatctgatt caccgtaatt 4680
ccaaagcgtc gtcggacctg attgtggctc gcgatacgcg agcaggctgc tccattcctt 4740
cgagatgccg cattggttag ctcaatcacg gcgcactatt taccacgtgt catcggttgc 4800
gtcatcggct gggagcatca gttggcaatg cattcgcggt ctcggcctca gcagacgctg 4860
gtagtgccca gagtgcagct gaccagcgtg ccgccatcga ggccgccgca gaggccgccc 4920
agcgatacgg attcgtttgc ggcaggggcc atgcccgcta ttgaatcggc tgactggccc 4980
gtgataaagg cctgatgcct cagtacgcca cctggcttac aggcgggttg cattgcaata 5040
ggtctatacc ttttgcaagg ttaacgaact gtcatcaaaa aacatggaag cacaatcaga 5100
aaaaagacct tgagtttcaa ggtctttttt cgtttggtga aaagtgatct gactcaaccc 5160
gcgatcttac cctcctctac tcgggttggc cgttagcacc caaagctacc ttcctgcgcg 5220

aatgcttgtt tcgttatggg catggcgtga tacaagcggt aggcgtacag caggtccatg 5280
agtctcggga acctgattga gagccgctct gcgctgtacc cccctggcct gagccactgt 5340
tcaaggcaac gcttccctga ccttgagcac cacttagctg ggcgccacca tcggcatgca 5400
ccaaaggcat ttgcagagag aggacagcaa agctggccaa tgcaatgaat tttgttttag 5460
agcagatatc tttaagtttc ataacaacca cctttgttga tcagaattgt tgaagaaatc 5520
atgagtcacg cttatgtgtg gcgactcatc gaaatcggtt ccaatgcaag atgggatttt 5580
tacgtccggc ctatccgctg atggcgatgc tgcggattca cctgatgcag aactggtttg 5640
attacagcga tccggcgatg gaggaagcac tttacgagac aacgatcctg cgccagttcg 5700
cagggttgag tctggatcga atcgccgatg aaaccacgat tctcaatttc cggcgcctgc 5760
tggaaaagca tgagttggca ggcgggattt tgcaggtcat caatggctat ctgggtgatc 5820
gaggtttgat gctgcgccaa ggtatggtgg tcgatgcgac gatcattcat gcgccgagct 5880
cgaccaagaa caaggacggc aaacgcgatc ccgaaatgca tcagacgaag aaaggaaacc 5940
agtatttctt cggcatgaaa gcgcatatcg gcgtcgatgc cgagtcgggt ttagtccata 6000
gcctggtggg tactgcggcg aatgtggcgg acgtgactca ggtcgatcaa ctgctgcaca 6060
gtgaggaaac ctatgtcagc ggtgatgcgg gctacaccgg cgtggacaag cgtgcggagc 6120
atcaggatcg ccagatgatc tggtcaattg cggcacgccc aagccgttat aaaaagcatg 6180
gcgagaaaag tttgatcgca cgggtctatc gcaaaatcga gttcacgaaa gcccagttgc 6240
gggcgaaggt tgaacatccg cttcgcgtga tcaagcgcca gtttggttat acgaaagtcc 6300
ggtttcgcgg gctggctaaa aacaccgcgc aacaggctac tctgtttgcc ttgtcgaacc 6360
tttggatggt gcgaaaacgg ctgctggcga tgggagaggt gcgcctgtaa tgcggaaaaa 6420
cgccttggaa aggtgctgtt tgaaggaaaa tcgatgagtt aacagcgcaa aaacgtctga 6480
ctatctgatc gggcgagttt ttttgaacct caggccatga aggcatcaaa aatcgatgct 6540
tacttcagac cttccttaac ctcagtagcg aggccggata aacgagtccc tttctatgat 6600
gctgtttcca gtaaactgac aaatttcatg cactgccgcc cgcgtgttca agcgctcaga 6660
ccttatagga aagcctcacg tctggattca gcttgccgcc gtagtttttc acattgatat 6720
cgacggtcgc tcgggacttg aggcccagat catcgatcac cagactgcgt accccatgca 6780
actctgccaa ccctgggact ccgtcacagg aagtggcgtg cgttgccccg acaaaagcga 6840
cccacttacc ttccggtttg ctcagcctta ttttttctgc tgcgtagtaa ttcatggctt 6900
gggcacgctt tatctcagct ttctccgggg ccatataggt ggacgttgta tccagcgaga 6960
caacgcgcaa cccggcgtgc ttggccgctt ccaccaaggt ggtgaagtta tatttcgtgt 7020
ggagctcttc cggggcctga tgaccctgac tctgcaaatc gaggtagttt ttcagcctgg 7080
caggcatcgg actgcctttg ggcgcgctca ggtaattatt gagcgccttg tcatgtgact 7140
cggcgcagag gtgctccata aaaagcgtgg tcacgccact ggccttcaag ctcttcatgt 7200
tattgatcag ttcacgcttg ctggacgttg aattgtgacc ctcaccaata acaagccccg 7260
gcgcatcacg taacagctcg cgcatgacac cgagactgtc cttgcttttc atcttcgtca 7320
acggcgccag ctcaggtaac ttttgcgcgt tgaaatcatc aaaataacgc gctgccttgg 7380
caatcagttt cttgtcatta ctgtcaggtg cccataaacc cttggacgtc cccagacaac 7440
tgtccatttc aaggtaattg agatttatat gaaggtggtc ccgaccttcc gagacaacaa 7500
cgtcggccag cttgagacct tgagcctcaa ggcgctgttc aagggcgtgc ttgccttctt 7560
gcaacaggat gctcacaaca tttgcagaca gttggctgct tttccccgct gcttttgagg 7620
gtgccagcgc ataggggtgc gggctctcac accagcgcgc gagctcggca agatcgctcg 7680
ccttgaagtt cgtatcctgc aatgctttgc tttgagctga agccgaggtc gaggccacgc 7740
tctggccgcc gtgcacatga ctgctgcctg ctgcgtccgg cttacgcctt ctggtgtgct 7800
ttacgccatc ctttccgcca ggctcctgcc cctcgatttt cagccggata ttttctacct 7860
tcatatccgg atagcgcccg gctggaaagc gcttcaggtc ccccagcatt ggagtctctg 7920
gcgcaacgct ggctgctgga gaggaactgg cctgtgaaga tcgggcgcga tcgtttcctg 7980
cagcttgcgc agtgggacgc tcagcttcat aggttggcgg ataatagcct ggagccggtc 8040
caccgacggg tctcatgatt gaatctccgc gtacgaaaaa tagtgccgag cccgggcgtg 8100

acgctgcccg ggccccgaca tttcagtcaa tcaatgcgcc ttcgcaatcc cgaactgatc 8160
aagcaccgga tcaacgttat ggtcgaacgc cttctgcgcc ttatgctttt tcacagcatc 8220
aatgatcatg gaaataccga aacctaccgc cagggcgcca tcgattgccc agccgaccac 8280
tggaatcgcg gcgcctaggg cggcacctgc ggcaaggccg gtggcttcac cggcaaccat 8340
gccgacggcg cgaccgatca tctgtccgcc cagacgccct aggccggctg aggcttcgcg 8400
gcccatcatc ttcgccccgg cgtcgatgcc acctttaatg gcctcggcgc ccatcctcgt 8460
gctgtcgtaa atggcctggg ttgcgccaag cttgtcgcca tgagcgatca ggctggacac 8520
tgaagcaaag cccacgatcg agttgagcgc cttgccgccg acgcccgcct cggcgagctg 8580
agtcaacatg gacggtccgc cctcatcgct tttgccttcc agaagcttgc ggccttttt 8640
ggagtcttgc agcgtaccca acgtgctgtt catgtagttt tcatgctgat tttcggtgaa 8700
atcaggggc agcacgctgt cgtaaatggc tttctggtta tcggcggttt gcagagactg 8760
gctggcatca gacttttct ggccaagcag ctgcttcagt gcaccgcctt cgctgaagtt 8820
ggtcacgtag gacgtggcaa tcttgtcttg cagatcgggt ttgttttcaa gcacctgatt 8880
ggtagtgggt actttggaat cggggaacag gtctttttgc agttgcaact gggcggacaa 8940
accgctgatg gcgccgctgt aatcggcatt cggattatgt ttgttgacgg ccttgtccgc 9000
cttgtccata tcagtctgca gcgcttgacc gctattgacg tttttcgtct gctcgacgac 9060
tgccttttgc agcgaggcat cactgcggac cagattgcgc tcctgctcgg gaatgctttt 9120
attgaggtac gcttgtacgt caggatcagc ctgtagctgg gaaatccggt cgttcaaacc 9180
ctgctcggtc ttgtcggtgt tgcgcaggct gcgcccggcg ataacgcttt gctgggtctg 9240
ctgcaacttg accatgacgg ccgctttctg tgcaccgctg taagacttgg gtttgtcgaa 9300
tacgtccttg tccagcttgc tgatatcaat cccggccacc gcattgagcg tcgcagaatc 9360
gctgagcatg ctggcgaact ggccgccgtt ggtgggtgcg cttttcttga tccactcact 9420
cagatttttc gcgtcgaaca tcttatcagg gctgtgcgca gccttcttgc gccccgacat 9480
gcccgcttcg tctacctgac ccaaaaagcc tggttgcgac caggtgctgc aggactgttt 9540
gagcgctccg gacaaccctg ggttactttg tgccaacccc ttcaggtctt ctgcgtcgac 9600
attaccgtca actttggtct tgtccgctgc atccactgca tgatgtgggt cggcagcaat 9660
cgccagtggc atattggctc gcatcactgc cgcgctgcgc accatttcca gtgactgcgg 9720
gtcagcgtcg gggttgtcct tggtgtagtt ggccaagtcc ttgtcggcac tgtctgcggc 9780
cttttccata ttttttgcga aggtcttgag atctttgttc gtgatcttgc catctgcgtt 9840
gccaccaccc tgagcaacgt ccacggcggt cttcagcgcc gggttggcgt tgatgaaatc 9900
catggccttg ccggcatcgg ggccatcatc acgcgccatc catgccgctg caatcgggcg 9960
attgagctct ttcgccgcct gctcgcgctc ttcgggcggc agatgggcaa ccatcggctc 10020
ccaacgtttc agagcttctg gcgaggagta ttcagaattg tcgagaaagg ctgcgtctgc 10080
ggctttgggg gcgttggaag cgtcggttgc atctgtgttc gtgggagctg cgacctgttc 10140
aaccggagcg gccggggcag tcgcttcagt cggtgcagcc tcggcaggag aatctgcgca 10200
gggttgcggc tggacctgat tattcacatt ggcattggca gctgccccgc cactgccctg 10260
gagcaaaaga gccaggatag acgacgcggt ctgctcggct cctgtcggcg cgccttgcgt 10320
gttgccggcc ggctgaccga actgcacgcc ggcttgccca ccgccaccca caggtgtcgg 10380
caaggctttg gcaagaggcg actcaacagc cagagccagt tcgccaggag tgggttggtt 10440
cacgataacg aagggagaac tggatatacg catggtgagt tgccatccga gagtgagcga 10500
tggcaactgt gtggttgaag gtgcaagttg gttccagaaa aaatgatcga gatcgccatt 10560
caggcgaacg ggtcgatttg ctgcttgagc tgaacccgcg cgcgggacag gcgtgagcga 10620
acggtgccaa tcggcacgcc gaggctgttc gctgtttcct gataattgcc gtccatctcc 10680
agcgacactt ccagcacttt ttgcatgttc gacggcaggc aatcaatggc ctgaatgact 10740
cgcgccagtt gccgatgccc ctctacctga tgactgacat caccgtgccc ttccagctcg 10800
gaatgcactt cgtcttccca gctttcctga tacggctgac gatacatttt gcggaagtga 10860
ttgcggatca ggttcagcgc gatgccacac agccaggtct gcggtttgct ggcatgttga 10920
aacttgtgct cgttacgcan ggcttcaaga aacacgcact ggagaatgtc atccacatca 10980

tcagggttca tacccgcttt ttggataaac gccctgagca tctgaatctg atcgggcggc 11040
atttggcgaa ataccgcgga cnaaaatggc tgacngggct gggttgagtc nangatcaca 11100
atcttttgaa acatgggctt accctgatta atggngtaca aaccctatag cgataaccat 11160
gccnnncttaa aaaaanaaaa aactggntga tttatnaaaa aattttaaaa anngaaattt 11220
tttgtataca aaacttgggc naccgntttt gcccaaaact tttgggcaaa aanatnggan 11280
ctttcanggg antgatccng gaccgnaacc cttannggaa taatccggtt aaancggcta 11340
tnaaanagng ttccnctata tggnaaaatt cgggggccca cccnttngaa ccttttggna 11400
acccttttcaa tgttgatttg ncaaataagg gattnnccca aaaggtttng ctttnggg 11458

<210> 19
<211> 1401
<212> DNA
<213> Pseudomonas syringae

<400> 19
atgagacccg tcggtggacc ggctccaggc tattatccgc caacctatga agctgagcgt 60
cccactgcgc aagctgcagg aaacgatcgc gcccgatctt cacaggccag ttcctctcca 120
gcagccagcg ttgcgccaga gactccaatg ctgggggacc tgaagcgctt tccagccggg 180
cgctatccgg atatgaaggt agaaaatatc cggctgaaaa tcgaggggca ggagcctggc 240
ggaaaggatg gcgtaaagca caccagaagg cgtaagccgg acgcagcagg cagcagtcat 300
gtgcacggcg gccagagcgt ggcctcgacc tcggcttcag ctcaaagcaa agcattgcag 360
gatacgaact tcaaggcgag cgatcttgcc gagctcgcgc gctggtgtga gagcccgcac 420
ccctatgcgc tggcaccctc aaaagcagcg gggaaaagca gccaactgtc tgcaaatgtt 480
gtgagcatcc tgttgcaaga aggcaagcac gcccttgaac agcgccttga ggctcaaggt 540
ctcaagctgg ccgacgttgt tgtctcggaa ggtcgggacc accttcatat aaatctcaat 600
taccttgaaa tggacagttg tctggggacg tccaagggtt tatgggcacc tgacagtaat 660
gacaagaaac tgattgccaa ggcagcgcgt tattttgatg atttcaacgc gcaaaagtta 720
cctgagctgg cgccgttgac gaagatgaaa agcaaggaca gtctcggtgt catgcgcgag 780
ctgttacgtg atgcgccggg gcttgttatt ggtgagggtc acaattcaac gtccagcaag 840
cgtgaactga tcaataacat gaagagcttg aaggccagtg gcgtgaccac gctttttatg 900
gagcacctct gcgccgagtc acatgacaag gcgctcaata attacctgag cgcgcccaaa 960
ggcagtccga tgcctgccag gctgaaaaac tacctcgatt tgcagagtca gggtcatcag 1020
gccccggaag agctccacac gaaatataac ttcaccacct tggtggaagc ggccaagcac 1080
gccgggttgc gcgttgtctc gctggataca acgtccacct atatggcccc ggagaaagct 1140
gagataaagc gtgcccaagc catgaattac tacgcagcag aaaaaataag gctgagcaaa 1200
ccggaaggta agtgggtcgc ttttgtcggg gcaacgcacg ccacttcctg tgacggagtc 1260
ccagggttgg cagagttgca tggggtacgc agtctggtga tcgatgatct gggcctcaag 1320
tcccgagcga ccgtcgatat caatgtgaaa aactacggcg gcaagctgaa tccagacgtg 1380
aggctttcct ataaggtctg a 1401

<210> 20
<211> 466
<212> PRT
<213> Pseudomonas syringae

<400> 20

```
Met Arg Pro Val Gly Gly Pro Ala Pro Gly Tyr Tyr Pro Pro Thr Tyr
 1               5                  10                  15

Glu Ala Glu Arg Pro Thr Ala Gln Ala Ala Gly Asn Asp Arg Ala Arg
            20                  25                  30

Ser Ser Gln Ala Ser Ser Ser Pro Ala Ala Ser Val Ala Pro Glu Thr
        35                  40                  45

Pro Met Leu Gly Asp Leu Lys Arg Phe Pro Ala Gly Arg Tyr Pro Asp
    50                  55                  60

Met Lys Val Glu Asn Ile Arg Leu Lys Ile Glu Gly Gln Glu Pro Gly
65                  70                  75                  80

Gly Lys Asp Gly Val Lys His Thr Arg Arg Arg Lys Pro Asp Ala Ala
                85                  90                  95

Gly Ser Ser His Val His Gly Gly Gln Ser Val Ala Ser Thr Ser Ala
            100                 105                 110

Ser Ala Gln Ser Lys Ala Leu Gln Asp Thr Asn Phe Lys Ala Ser Asp
        115                 120                 125

Leu Ala Glu Leu Ala Arg Trp Cys Glu Ser Pro His Pro Tyr Ala Leu
    130                 135                 140

Ala Pro Ser Lys Ala Ala Gly Lys Ser Ser Gln Leu Ser Ala Asn Val
145                 150                 155                 160

Val Ser Ile Leu Leu Gln Glu Gly Lys His Ala Leu Glu Gln Arg Leu
                165                 170                 175

Glu Ala Gln Gly Leu Lys Leu Ala Asp Val Val Val Ser Glu Gly Arg
            180                 185                 190

Asp His Leu His Ile Asn Leu Asn Tyr Leu Glu Met Asp Ser Cys Leu
        195                 200                 205

Gly Thr Ser Lys Gly Leu Trp Ala Pro Asp Ser Asn Asp Lys Lys Leu
    210                 215                 220

Ile Ala Lys Ala Ala Arg Tyr Phe Asp Asp Phe Asn Ala Gln Lys Leu
225                 230                 235                 240

Pro Glu Leu Ala Pro Leu Thr Lys Met Lys Ser Lys Asp Ser Leu Gly
                245                 250                 255
```

```
Val Met Arg Glu Leu Leu Arg Asp Ala Pro Gly Leu Val Ile Gly Glu
            260                 265                 270

Gly His Asn Ser Thr Ser Ser Lys Arg Glu Leu Ile Asn Asn Met Lys
        275                 280                 285

Ser Leu Lys Ala Ser Gly Val Thr Thr Leu Phe Met Glu His Leu Cys
    290                 295                 300

Ala Glu Ser His Asp Lys Ala Leu Asn Asn Tyr Leu Ser Ala Pro Lys
305                 310                 315                 320

Gly Ser Pro Met Pro Ala Arg Leu Lys Asn Tyr Leu Asp Leu Gln Ser
                325                 330                 335

Gln Gly His Gln Ala Pro Glu Glu Leu His Thr Lys Tyr Asn Phe Thr
            340                 345                 350

Thr Leu Val Glu Ala Ala Lys His Ala Gly Leu Arg Val Val Ser Leu
        355                 360                 365

Asp Thr Thr Ser Thr Tyr Met Ala Pro Glu Lys Ala Glu Ile Lys Arg
    370                 375                 380

Ala Gln Ala Met Asn Tyr Tyr Ala Ala Glu Lys Ile Arg Leu Ser Lys
385                 390                 395                 400

Pro Glu Gly Lys Trp Val Ala Phe Val Gly Ala Thr His Ala Thr Ser
                405                 410                 415

Cys Asp Gly Val Pro Gly Leu Ala Glu Leu His Gly Val Arg Ser Leu
            420                 425                 430

Val Ile Asp Asp Leu Gly Leu Lys Ser Arg Ala Thr Val Asp Ile Asn
        435                 440                 445

Val Lys Asn Tyr Gly Gly Lys Leu Asn Pro Asp Val Arg Leu Ser Tyr
    450                 455                 460

Lys Val
465
```

<210> 21
<211> 726
<212> DNA
<213> Pseudomonas syringae

<400> 21
atgcaaaaga cgaccctatg ggctttagcc tttgcaatgt tggcagggtg tggggtttcg 60
gggccggcgc cgggaagtga tattcagggt gcccaggcag agatgaaaac acccgttaaa 120
ctaaatctgg atgcctacac ctcaaaaaaa ctggatgctg tgctggaagc ccgcaccaac 180
aaaagttata tgaataaagg tcagctgatc gaccttgtat caggagcgtt tttaggaaca 240
ccgtaccgct caaacatgtt ggtgggctca gcgaatgtac ctgaacaatt agtcatcgac 300
ttcagaggtc tggattgttt tgcttatctg gattacgtcg aagcgtttcg aagatcaaca 360
tcgcagcagg attttgtgag gaatctcgtt caggttcgtt acaagggtgg cgatgttgac 420
tttttgaatc gcaagcactt tttcacggat tgggcttacg gaacggcata ccctgtggcg 480
gatgacatta ccgcgcagat aagccccggt gcggtaagtg tcagaaaacg ccttaatgaa 540
agggccaaag gcaaagtcta tctgccaggg ttgcctgtgg ttgagcgtag catgacgtat 600
atcccgagcc gccttgtcga cagtcaggtg gtgagccacc tgcgcaccgg tgattacatt 660
ggcatttaca cccccgcttc ccgggctgga tgtgacacac gtcggtttct ttatcgtgac 720
ggataa 726

<210> 22
<211> 241
<212> PRT
<213> Pseudomonas syringae

<400> 22
Met Gln Lys Thr Thr Leu Trp Ala Leu Ala Phe Ala Met Leu Ala Gly
1 5 10 15

Cys Gly Val Ser Gly Pro Ala Pro Gly Ser Asp Ile Gln Gly Ala Gln
20 25 30

Ala Glu Met Lys Thr Pro Val Lys Leu Asn Leu Asp Ala Tyr Thr Ser
35 40 45

Lys Lys Leu Asp Ala Val Leu Glu Ala Arg Thr Asn Lys Ser Tyr Met
50 55 60

Asn Lys Gly Gln Leu Ile Asp Leu Val Ser Gly Ala Phe Leu Gly Thr
65 70 75 80

Pro Tyr Arg Ser Asn Met Leu Val Gly Ser Ala Asn Val Pro Glu Gln
85 90 95

Leu Val Ile Asp Phe Arg Gly Leu Asp Cys Phe Ala Tyr Leu Asp Tyr
100 105 110

Val Glu Ala Phe Arg Arg Ser Thr Ser Gln Gln Asp Phe Val Arg Asn
115 120 125

Leu Val Gln Val Arg Tyr Lys Gly Gly Asp Val Asp Phe Leu Asn Arg
130 135 140

Lys His Phe Phe Thr Asp Trp Ala Tyr Gly Thr Ala Tyr Pro Val Ala
145 150 155 160

Asp Asp Ile Thr Ala Gln Ile Ser Pro Gly Ala Val Ser Val Arg Lys
165 170 175

Arg Leu Asn Glu Arg Ala Lys Gly Lys Val Tyr Leu Pro Gly Leu Pro
180 185 190

Val Val Glu Arg Ser Met Thr Tyr Ile Pro Ser Arg Leu Val Asp Ser
195 200 205

Gln Val Val Ser His Leu Arg Thr Gly Asp Tyr Ile Gly Ile Tyr Thr
210 215 220

Pro Ala Ser Arg Ala Gly Cys Asp Thr Arg Arg Phe Leu Tyr Arg Asp
225 230 235 240

Gly

<210> 23
<211> 417
<212> DNA
<213> Pseudomonas syringae

<400> 23
atgcgcgcgt ataaaaacct gacggcaaag atcggcggct ttctgcttgc gctgacgatc 60
attggcactt cgctacctgc atttgccgta aacgattgtg atctggacaa cgacaacagc 120
accggtgcca cgtgtggcgg caacgacaag gatctggata acgacaacgt gactgacgcg 180
gcatttggcg gcaacgacaa ggatatggac aatgaccacc acaccgacgc ggcatttggg 240
ggtaacgaca aggacctgga caacgatcac catacggatg cagcgtttgg cggtaacgac 300
aaagatctcg acaacgacaa caaaaccgat gcggctttcg gtggaaatga ccgcgatctt 360
gataacgaca acaacaccga caactacaac ggcacgccgt ctgccgctaa aaagtag 417

<210> 24
<211> 138
<212> PRT
<213> Pseudomonas syringae

<400> 24
Met Arg Ala Tyr Lys Asn Leu Thr Ala Lys Ile Gly Gly Phe Leu Leu
1 5 10 15

Ala Leu Thr Ile Ile Gly Thr Ser Leu Pro Ala Phe Ala Val Asn Asp

```
            20                  25                  30

Cys Asp Leu Asp Asn Asp Asn Ser Thr Gly Ala Thr Cys Gly Gly Asn
         35                  40                  45

Asp Lys Asp Leu Asp Asn Asp Asn Val Thr Asp Ala Ala Phe Gly Gly
     50                  55                  60

Asn Asp Lys Asp Met Asp Asn Asp His His Thr Asp Ala Ala Phe Gly
 65                  70                  75                  80

Gly Asn Asp Lys Asp Leu Asp Asn Asp His His Thr Asp Ala Ala Phe
                 85                  90                  95

Gly Gly Asn Asp Lys Asp Leu Asp Asn Asp Asn Lys Thr Asp Ala Ala
            100                 105                 110

Phe Gly Gly Asn Asp Arg Asp Leu Asp Asn Asp Asn Asn Thr Asp Asn
        115                 120                 125

Tyr Asn Gly Thr Pro Ser Ala Ala Lys Lys
    130                 135
```

<210> 25
<211> 411
<212> DNA
<213> Pseudomonas syringae

<400> 25
atgaacaaga tcgtctacgt aaaagcttac ttcaaaccca ttggggagga agtctcggtt 60
aaagtaccta caggcgaaat taaaaagggc tttttcggcg acaaggaaat catgaaaaaa 120
gagacccagt ggcagcaaac cgggtggtct gattgtcaga tagacggtga acggctatcg 180
aaagacgtcg aagacgcagt ggcgcaactc aatgctgacg gttatgagat tcaaacggta 240
ttgcctatat tgtccggggc ttatgattat gcgctcaaat accgatacga aatacgtcac 300
aatagaactg aactaagccc aggagaccag tcctatgtct tcggctatgg ctacagcttc 360
accgaaggcg tgacgctggt ggcgaaaaaa tttcagtcgt ctgcaagctg a   411

<210> 26
<211> 136
<212> PRT
<213> Pseudomonas syringae

<400> 26
```
Met Asn Lys Ile Val Tyr Val Lys Ala Tyr Phe Lys Pro Ile Gly Glu
  1               5                  10                  15
```

```
Glu Val Ser Val Lys Val Pro Thr Gly Glu Ile Lys Lys Gly Phe Phe
            20                  25                  30

Gly Asp Lys Glu Ile Met Lys Lys Glu Thr Gln Trp Gln Gln Thr Gly
        35                  40                  45

Trp Ser Asp Cys Gln Ile Asp Gly Glu Arg Leu Ser Lys Asp Val Glu
    50                  55                  60

Asp Ala Val Ala Gln Leu Asn Ala Asp Gly Tyr Glu Ile Gln Thr Val
65                  70                  75                  80

Leu Pro Ile Leu Ser Gly Ala Tyr Asp Tyr Ala Leu Lys Tyr Arg Tyr
                85                  90                  95

Glu Ile Arg His Asn Arg Thr Glu Leu Ser Pro Gly Asp Gln Ser Tyr
            100                 105                 110

Val Phe Gly Tyr Gly Tyr Ser Phe Thr Glu Gly Val Thr Leu Val Ala
        115                 120                 125

Lys Lys Phe Gln Ser Ser Ala Ser
    130                 135
```

<210> 27
<211> 972
<212> DNA
<213> Pseudomonas syringae

<400> 27
atgggttgcg tatcgtcaaa agcatctgtc atttcttcgg acagctttcg cgcatcatat 60
acaaactctc cagaggcatc ctcagtccat caacgagcca ggacgccaag gtgcggtgag 120
cttcaggggc cccaagtgag cagattgatg ccttaccagc aggcgttagt aggtgtggcc 180
cgatggccta atccgcattt taacagggac gatgcgcccc accagatgga gtatggagaa 240
tcgttctacc ataaaagccg agagcttggt gcgtcggtcg ccaatggaga gatagaaacg 300
tttcaggagc tctggagtga agctcgtgat tggagagctt ccagagcagg ccaagatgct 360
cggcttttta gttcatcgcg tgatcccaac tcttcacggg cgtttgttac gcctataact 420
ggaccatacg aatttttaaa agatagattc gcaaaccgta aagatggaga aaagcataag 480
atgatggatt ttctcccaca cagcaatacg tttaggtttc atgggaaaat tgacggtgag 540
cgacttcctc tcacctggat ctcgataagt tctgatcgtc gtgccgacag aacaaaggat 600
ccttaccaaa ggttgcgcga ccaaggcatg aacgatgtgg gtgagcctaa tgtgatgttg 660
cacacccaag ccgagtatgt gcccaaaatt atgcaacatg tggagcatct ttataaggcc 720
gctacggatg ctgcattgtc cgatgccaat gcgctgaaaa aactcgcaga gatacattgg 780
tggacggtac aagctgttcc cgactttcgt ggaagtgcag ctaaggctga gctctgcgtg 840
cgctccattg cccaggcaag gggcatggac ctgccgccga tgagactcgg catcgtgccg 900
gatctggaag cgcttacgat gcctttgaaa gactttgtga aaagttacga agggttcttc 960
gaacataact ga   972

<210> 28
<211> 323
<212> PRT
<213> Pseudomonas syringae

<400> 28
Met Gly Cys Val Ser Ser Lys Ala Ser Val Ile Ser Ser Asp Ser Phe
1 5 10 15

Arg Ala Ser Tyr Thr Asn Ser Pro Glu Ala Ser Ser Val His Gln Arg
20 25 30

Ala Arg Thr Pro Arg Cys Gly Glu Leu Gln Gly Pro Gln Val Ser Arg
35 40 45

Leu Met Pro Tyr Gln Gln Ala Leu Val Gly Val Ala Arg Trp Pro Asn
50 55 60

Pro His Phe Asn Arg Asp Asp Ala Pro His Gln Met Glu Tyr Gly Glu
65 70 75 80

Ser Phe Tyr His Lys Ser Arg Glu Leu Gly Ala Ser Val Ala Asn Gly
85 90 95

Glu Ile Glu Thr Phe Gln Glu Leu Trp Ser Glu Ala Arg Asp Trp Arg
100 105 110

Ala Ser Arg Ala Gly Gln Asp Ala Arg Leu Phe Ser Ser Ser Arg Asp
115 120 125

Pro Asn Ser Ser Arg Ala Phe Val Thr Pro Ile Thr Gly Pro Tyr Glu
130 135 140

Phe Leu Lys Asp Arg Phe Ala Asn Arg Lys Asp Gly Glu Lys His Lys
145 150 155 160

Met Met Asp Phe Leu Pro His Ser Asn Thr Phe Arg Phe His Gly Lys
165 170 175

Ile Asp Gly Glu Arg Leu Pro Leu Thr Trp Ile Ser Ile Ser Ser Asp
180 185 190

Arg Arg Ala Asp Arg Thr Lys Asp Pro Tyr Gln Arg Leu Arg Asp Gln
195 200 205

Gly Met Asn Asp Val Gly Glu Pro Asn Val Met Leu His Thr Gln Ala

```
    210                 215                 220

Glu Tyr Val Pro Lys Ile Met Gln His Val Glu His Leu Tyr Lys Ala
225                 230                 235                 240

Ala Thr Asp Ala Ala Leu Ser Asp Ala Asn Ala Leu Lys Lys Leu Ala
                245                 250                 255

Glu Ile His Trp Trp Thr Val Gln Ala Val Pro Asp Phe Arg Gly Ser
            260                 265                 270

Ala Ala Lys Ala Glu Leu Cys Val Arg Ser Ile Ala Gln Ala Arg Gly
        275                 280                 285

Met Asp Leu Pro Pro Met Arg Leu Gly Ile Val Pro Asp Leu Glu Ala
    290                 295                 300

Leu Thr Met Pro Leu Lys Asp Phe Val Lys Ser Tyr Glu Gly Phe Phe
305                 310                 315                 320

Glu His Asn
```


<210> 29
<211> 1149
<212> DNA
<213> Pseudomonas syringae

<400> 29
atgagaattc acagttccgg tcatggcatc tccggaccag tatcctctgc agaaaccgtt 60
gaaaaggccg tgcaatcatc ggcccaagcg cagaatgaag cgtctcacag cggtccatca 120
gaacatcctg aatcccgctc ctgtcaggca cgcccgaact acccttattc gtcagtcaaa 180
acacggttac cccctgttgc gtctgcaggg cagtcgctgt ctgagacacc ctcttcattg 240
cctggctacc tgctgttacg tcggcttgat cgtcgtccgc tggaccagga cgcaataaag 300
gggcttattc ctgctgatga agcagtgggc gaagcgcgcc gcgcgttgcc cttcggcagg 360
ggcaacattg atgtggatgc gcaacgctcc aacctggaaa gcggggcccg cacgctcgcc 420
gcaagacgcc tgagaaaaga cgccgagacg gcgggtcatg agccgatgcc cgagaacgaa 480
gacatgaact ggcatgtgct ggttgccatg tcgggtcagg tgttcggggc tggcaactgt 540
ggcgaacatg cccgtatagc gagctttgcc tacggtgcat cggctcagga aaaaggacgc 600
gctggcgatg aaaatattca tctggctgcg cagagcgggg aagatcatgt ctgggctgaa 660
acggatgatt ccagcgctgg ctcttcgcct attgtcatgg acccctggtc aaacggtcct 720
gccgtttttg cagaggacag tcggtttgct aaagataggc gcgcggtaga gcgaacggat 780
tcgttcacgc tttcaaccgc tgccaaagca ggcaagatta cacgagagac agccgagaag 840
gcgctgaccc aagcgaccag ccgtttgcag caacgtcttg ctgatcagca ggcgcaagtc 900
tcgccggttg aaggtggtcg ctatcggcaa gaaaactcgg tgcttgatga tgcgttcgcc 960
cgacgagtca gtgacatgtt gaacaatgcc gatccacggc gtgcattgca ggtggaaatc 1020
gaggcgtccg gagttgcaat gtcgctgggt gcccaaggcg tcaagacggt cgtccgacag 1080

gcgccaaaag tggtcaggca agccagaggc gtcgcatctg ctaaaggtat gtctccgcga 1140
gcaacctga 1149

<210> 30
<211> 382
<212> PRT
<213> Pseudomonas syringae

<400> 30

```
Met Arg Ile His Ser Ser Gly His Gly Ile Ser Gly Pro Val Ser Ser
  1               5                  10                  15

Ala Glu Thr Val Glu Lys Ala Val Gln Ser Ser Ala Gln Ala Gln Asn
             20                  25                  30

Glu Ala Ser His Ser Gly Pro Ser Glu His Pro Glu Ser Arg Ser Cys
         35                  40                  45

Gln Ala Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro
     50                  55                  60

Pro Val Ala Ser Ala Gly Gln Ser Leu Ser Glu Thr Pro Ser Ser Leu
 65                  70                  75                  80

Pro Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Gln
                 85                  90                  95

Asp Ala Ile Lys Gly Leu Ile Pro Ala Asp Glu Ala Val Gly Glu Ala
            100                 105                 110

Arg Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln
        115                 120                 125

Arg Ser Asn Leu Glu Ser Gly Ala Arg Thr Leu Ala Ala Arg Arg Leu
    130                 135                 140

Arg Lys Asp Ala Glu Thr Ala Gly His Glu Pro Met Pro Glu Asn Glu
145                 150                 155                 160

Asp Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly
                165                 170                 175

Ala Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly
            180                 185                 190

Ala Ser Ala Gln Glu Lys Gly Arg Ala Gly Asp Glu Asn Ile His Leu
        195                 200                 205
```

```
Ala Ala Gln Ser Gly Glu Asp His Val Trp Ala Glu Thr Asp Asp Ser
    210                 215                 220

Ser Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Pro
225                 230                 235                 240

Ala Val Phe Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Arg Ala Val
                245                 250                 255

Glu Arg Thr Asp Ser Phe Thr Leu Ser Thr Ala Ala Lys Ala Gly Lys
            260                 265                 270

Ile Thr Arg Glu Thr Ala Glu Lys Ala Leu Thr Gln Ala Thr Ser Arg
        275                 280                 285

Leu Gln Gln Arg Leu Ala Asp Gln Gln Ala Gln Val Ser Pro Val Glu
    290                 295                 300

Gly Gly Arg Tyr Arg Gln Glu Asn Ser Val Leu Asp Asp Ala Phe Ala
305                 310                 315                 320

Arg Arg Val Ser Asp Met Leu Asn Asn Ala Asp Pro Arg Arg Ala Leu
                325                 330                 335

Gln Val Glu Ile Glu Ala Ser Gly Val Ala Met Ser Leu Gly Ala Gln
            340                 345                 350

Gly Val Lys Thr Val Val Arg Gln Ala Pro Lys Val Val Arg Gln Ala
        355                 360                 365

Arg Gly Val Ala Ser Ala Lys Gly Met Ser Pro Arg Ala Thr
    370                 375                 380
```

<210> 31
<211> 1236
<212> DNA
<213> Pseudomonas syringae

<400> 31
atgaatatct caggtccgaa cagacgtcag gggactcagg cagagaacac tgaaagcgct 60
tcgtcatcat cggtaactaa cccaccgcta cagcgtggcg agggcagacg tctgcgacgt 120
caggatgcgc tgccaacgga tatcagatac aacgccaacc agacagcgac atcaccgcaa 180
aacgcgcgcg cggcaggaag atatgaatca ggggccagct catccggcgc gaatgatact 240
ccgcaggctg aaggttcaat gccttcgtcg tccgcccttt tacaatttcg cctcgccggc 300
gggcggaacc attctgagct ggaaaatttt catactatga tgctgaactc accgaaagca 360
tcacggggag atgctatacc tgagaagccc gaagcaatac ctaagcgcct actggagaag 420

```
atggaaccga ttaacctggc ccagttagct ttgcgtgata aggatctgca tgaatatgcc 480
gtaatggtct gtaaccaagt gaaaaagggt gaaggtccga actccaatat tacgcaagga 540
gatatcaagt tactgccgct gttcgccaaa gcggaaaata caagaaatcc cggcttgaat 600
ctgcatacat tcaaaagtca taaagactgt taccaggcga taaaagagca aaacagggat 660
attcaaaaaa acaagcaatc gctgagtatg cgggttgttt acccccccatt caaaaagatg 720
ccagaccacc atatagcctt ggatatccaa ctgagatacg gccatcgacc gtcgattgtc 780
ggctttgagt ctgcccctgg gaacattata gatgctgcag aaagggaaat actttcagca 840
ttaggcaacg tcaaaatcaa aatggtagga aattttcttc aatactcgaa aactgactgc 900
accatgtttg cgcttaataa cgccctgaaa gcttttaaac atcacgaaga atataccgcc 960
cgtctgcaca atggagaaaa gcaggtgcct atcccggcga ccttcttgaa acatgctcag 1020
tcaaaaagct tagtggagaa tcacccggaa aaagatacca ccgtcactaa agaccagggc 1080
ggtctgcata tggaaacgct attacacaga aaccgtgcct accgggcgca acgatctgcc 1140
ggtcagcacg ttacctctat tgaaggtttc agaatgcagg aaataaagag agcaggtgac 1200
ttccttgccg caaacagggt ccgggccaag ccttga                          1236
```

<210> 32
<211> 411
<212> PRT
<213> Pseudomonas syringae

<400> 32

```
Met Asn Ile Ser Gly Pro Asn Arg Arg Gln Gly Thr Gln Ala Glu Asn
  1               5                  10                  15

Thr Glu Ser Ala Ser Ser Ser Ser Val Thr Asn Pro Pro Leu Gln Arg
             20                  25                  30

Gly Glu Gly Arg Arg Leu Arg Arg Gln Asp Ala Leu Pro Thr Asp Ile
         35                  40                  45

Arg Tyr Asn Ala Asn Gln Thr Ala Thr Ser Pro Gln Asn Ala Arg Ala
     50                  55                  60

Ala Gly Arg Tyr Glu Ser Gly Ala Ser Ser Ser Gly Ala Asn Asp Thr
 65                  70                  75                  80

Pro Gln Ala Glu Gly Ser Met Pro Ser Ser Ser Ala Leu Leu Gln Phe
                 85                  90                  95

Arg Leu Ala Gly Gly Arg Asn His Ser Glu Leu Glu Asn Phe His Thr
            100                 105                 110

Met Met Leu Asn Ser Pro Lys Ala Ser Arg Gly Asp Ala Ile Pro Glu
        115                 120                 125

Lys Pro Glu Ala Ile Pro Lys Arg Leu Leu Glu Lys Met Glu Pro Ile
    130                 135                 140
```

Asn Leu Ala Gln Leu Ala Leu Arg Asp Lys Asp Leu His Glu Tyr Ala
145 150 155 160

Val Met Val Cys Asn Gln Val Lys Lys Gly Glu Gly Pro Asn Ser Asn
165 170 175

Ile Thr Gln Gly Asp Ile Lys Leu Leu Pro Leu Phe Ala Lys Ala Glu
180 185 190

Asn Thr Arg Asn Pro Gly Leu Asn Leu His Thr Phe Lys Ser His Lys
195 200 205

Asp Cys Tyr Gln Ala Ile Lys Glu Gln Asn Arg Asp Ile Gln Lys Asn
210 215 220

Lys Gln Ser Leu Ser Met Arg Val Val Tyr Pro Pro Phe Lys Lys Met
225 230 235 240

Pro Asp His His Ile Ala Leu Asp Ile Gln Leu Arg Tyr Gly His Arg
245 250 255

Pro Ser Ile Val Gly Phe Glu Ser Ala Pro Gly Asn Ile Ile Asp Ala
260 265 270

Ala Glu Arg Glu Ile Leu Ser Ala Leu Gly Asn Val Lys Ile Lys Met
275 280 285

Val Gly Asn Phe Leu Gln Tyr Ser Lys Thr Asp Cys Thr Met Phe Ala
290 295 300

Leu Asn Asn Ala Leu Lys Ala Phe Lys His His Glu Glu Tyr Thr Ala
305 310 315 320

Arg Leu His Asn Gly Glu Lys Gln Val Pro Ile Pro Ala Thr Phe Leu
325 330 335

Lys His Ala Gln Ser Lys Ser Leu Val Glu Asn His Pro Glu Lys Asp
340 345 350

Thr Thr Val Thr Lys Asp Gln Gly Gly Leu His Met Glu Thr Leu Leu
355 360 365

His Arg Asn Arg Ala Tyr Arg Ala Gln Arg Ser Ala Gly Gln His Val
370 375 380

Thr Ser Ile Glu Gly Phe Arg Met Gln Glu Ile Lys Arg Ala Gly Asp
385 390 395 400

Phe Leu Ala Ala Asn Arg Val Arg Ala Lys Pro
405 410

<210> 33
<211> 363
<212> DNA
<213> Pseudomonas syringae

<400> 33
atgacgctgg aacggattga acagcaaaat acgctgtttg tttatctgtg cgtgggcacg 60
ctttctactc cagccagcag cacacttctg agcgatattc tggccgccaa cctctttcat 120
tatgggtcca gcgatggggc ggccttcggg ctggacgaaa aaaataatga agtgctgctt 180
tttcagcggt ttgatccgtt acggattgat gaggatcact ttgtcagcgc ctgcgttcag 240
atgatcgaag tggcgaaaat atggcgggca aagttactgc atggccattc tgctccgctc 300
gcctcctcaa ccaggctgac gaaagccggt ttaatgctaa ccatggcggg gactattcga 360
tga 363

<210> 34
<211> 120
<212> PRT
<213> Pseudomonas syringae

<400> 34
Met Thr Leu Glu Arg Ile Glu Gln Gln Asn Thr Leu Phe Val Tyr Leu
1 5 10 15

Cys Val Gly Thr Leu Ser Thr Pro Ala Ser Ser Thr Leu Leu Ser Asp
20 25 30

Ile Leu Ala Ala Asn Leu Phe His Tyr Gly Ser Ser Asp Gly Ala Ala
35 40 45

Phe Gly Leu Asp Glu Lys Asn Asn Glu Val Leu Leu Phe Gln Arg Phe
50 55 60

Asp Pro Leu Arg Ile Asp Glu Asp His Phe Val Ser Ala Cys Val Gln
65 70 75 80

Met Ile Glu Val Ala Lys Ile Trp Arg Ala Lys Leu Leu His Gly His
85 90 95

Ser Ala Pro Leu Ala Ser Ser Thr Arg Leu Thr Lys Ala Gly Leu Met
100 105 110

Leu Thr Met Ala Gly Thr Ile Arg

115 120

<210> 35
<211> 1128
<212> DNA
<213> Pseudomonas syringae

<400> 35
gtgaacccta tccatgcacg cttctccagc gtagaagcgc tcagacattc aaacgttgat 60
attcaggcaa tcaaatccga gggtcagttg gaagtcaacg gcaagcgtta cgagattcgt 120
gcggccgctg acggctcaat cgcggtcctc agacccgatc aacagtccaa agcagacaag 180
ttcttcaaag gcgcagcgca tcttattggc ggacaaagcc agcgtgccca aatagcccag 240
gtactcaacg agaaagcggc ggcagttcca cgcctggaca gaatgttggg cagacgcttc 300
gatctggaga agggcggaag tagcgctgtg ggcgccgcaa tcaaggctgc cgacagccga 360
ctgacatcaa aacagacatt tgccagcttc cagcaatggg ctgaaaaagc tgaggcgctc 420
gggcgatacc gaaatcggta tctacatgat ctacaagagg gacacgccag acacaacgcc 480
tatgaatgcg gcagagtcaa gaacattacc tggaaacgct acaggctctc gataacaaga 540
aaaaccttat catacgcccc gcagatccat gatgatcggg aagaggaaga gcttgatctg 600
ggccgataca tcgctgaaga cagaaatgcc agaaccggct tttttagaat ggttcctaaa 660
gaccaacgcg cacctgagac aaactcggga cgacttacca ttggtgtaga acctaaatat 720
ggagcgcagt tggccctcgc aatggcaacc ctgatggaca agcacaaatc tgtgacacaa 780
ggtaaagtcg tcggtccggc aaaatatggc cagcaaactg actctgccat tctttacata 840
aatggtgatc ttgcaaaagc agtaaaactg ggcgaaaagc tgaaaaagct gagcggtatc 900
cctcctgaag gattcgtcga acatacaccg ctaagcatgc agtcgacggg tctcggtctt 960
tcttatgccg agtcggttga agggcagcct tccagccacg gacaggcgag aacacacgtt 1020
atcatggatg ccttgaaagg ccagggcccc atggagaaca gactcaaaat ggcgctggca 1080
gaaagaggct atgacccgga aaatccggcg ctcagggcgc gaaactga 1128

<210> 36
<211> 375
<212> PRT
<213> Pseudomonas syringae

<400> 36
Val Asn Pro Ile His Ala Arg Phe Ser Ser Val Glu Ala Leu Arg His
1 5 10 15

Ser Asn Val Asp Ile Gln Ala Ile Lys Ser Glu Gly Gln Leu Glu Val
20 25 30

Asn Gly Lys Arg Tyr Glu Ile Arg Ala Ala Ala Asp Gly Ser Ile Ala
35 40 45

Val Leu Arg Pro Asp Gln Gln Ser Lys Ala Asp Lys Phe Phe Lys Gly
50 55 60

```
Ala Ala His Leu Ile Gly Gly Gln Ser Gln Arg Ala Gln Ile Ala Gln
 65                  70                  75                  80

Val Leu Asn Glu Lys Ala Ala Ala Val Pro Arg Leu Asp Arg Met Leu
                85                  90                  95

Gly Arg Arg Phe Asp Leu Glu Lys Gly Gly Ser Ser Ala Val Gly Ala
            100                 105                 110

Ala Ile Lys Ala Ala Asp Ser Arg Leu Thr Ser Lys Gln Thr Phe Ala
        115                 120                 125

Ser Phe Gln Gln Trp Ala Glu Lys Ala Glu Ala Leu Gly Arg Tyr Arg
    130                 135                 140

Asn Arg Tyr Leu His Asp Leu Gln Glu Gly His Ala Arg His Asn Ala
145                 150                 155                 160

Tyr Glu Cys Gly Arg Val Lys Asn Ile Thr Trp Lys Arg Tyr Arg Leu
                165                 170                 175

Ser Ile Thr Arg Lys Thr Leu Ser Tyr Ala Pro Gln Ile His Asp Asp
            180                 185                 190

Arg Glu Glu Glu Glu Leu Asp Leu Gly Arg Tyr Ile Ala Glu Asp Arg
        195                 200                 205

Asn Ala Arg Thr Gly Phe Phe Arg Met Val Pro Lys Asp Gln Arg Ala
    210                 215                 220

Pro Glu Thr Asn Ser Gly Arg Leu Thr Ile Gly Val Glu Pro Lys Tyr
225                 230                 235                 240

Gly Ala Gln Leu Ala Leu Ala Met Ala Thr Leu Met Asp Lys His Lys
                245                 250                 255

Ser Val Thr Gln Gly Lys Val Val Gly Pro Ala Lys Tyr Gly Gln Gln
            260                 265                 270

Thr Asp Ser Ala Ile Leu Tyr Ile Asn Gly Asp Leu Ala Lys Ala Val
        275                 280                 285

Lys Leu Gly Glu Lys Leu Lys Lys Leu Ser Gly Ile Pro Pro Glu Gly
    290                 295                 300

Phe Val Glu His Thr Pro Leu Ser Met Gln Ser Thr Gly Leu Gly Leu
305                 310                 315                 320
```

Ser Tyr Ala Glu Ser Val Glu Gly Gln Pro Ser Ser His Gly Gln Ala
325 330 335

Arg Thr His Val Ile Met Asp Ala Leu Lys Gly Gln Gly Pro Met Glu
340 345 350

Asn Arg Leu Lys Met Ala Leu Ala Glu Arg Gly Tyr Asp Pro Glu Asn
355 360 365

Pro Ala Leu Arg Ala Arg Asn
370 375

<210> 37
<211> 336
<212> DNA
<213> Pseudomonas syringae

<400> 37
atggagatgc ccgccttggc gtttgacgat aagggtgcgt gcaacatgat catcgacaag 60
gcattcgctc tgacgctgtt gcgcgacgac acgcatcaac gtttgttgct gattggtctg 120
cttgagccac acgaggatct acccttgcag cgcctgttgg ctggcgctct caacccccct 180
gtgaatgccg gccccggcat tggctgggat gagcaaagcg gcctgtacca cgcttaccaa 240
agcatcccgc gggaaaaagt cagcgtggag atgctgaagc tcgaaattgc aggattggtc 300
gaatggatga agtgttggcg agaagcccgc acgtga 336

<210> 38
<211> 111
<212> PRT
<213> Pseudomonas syringae

<400> 38
Met Glu Met Pro Ala Leu Ala Phe Asp Asp Lys Gly Ala Cys Asn Met
1 5 10 15

Ile Ile Asp Lys Ala Phe Ala Leu Thr Leu Leu Arg Asp Asp Thr His
20 25 30

Gln Arg Leu Leu Leu Ile Gly Leu Leu Glu Pro His Glu Asp Leu Pro
35 40 45

Leu Gln Arg Leu Leu Ala Gly Ala Leu Asn Pro Leu Val Asn Ala Gly
50 55 60

Pro Gly Ile Gly Trp Asp Glu Gln Ser Gly Leu Tyr His Ala Tyr Gln
65 70 75 80

Ser Ile Pro Arg Glu Lys Val Ser Val Glu Met Leu Lys Leu Glu Ile
85 90 95

Ala Gly Leu Val Glu Trp Met Lys Cys Trp Arg Glu Ala Arg Thr
100 105 110

<210> 39
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. angulata

<400> 39
atgagaattc acagtgctgg tcacagcctg cctgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttacagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ctgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg ccacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagta cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 40
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. angulata

<400> 40
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Tyr Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln

```
          35                  40                  45

Val Arg Leu Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
     50                  55                  60

Val Ser Ser Thr Gly Gln Ala Ile Ser Ala Thr Pro Ser Ser Leu Pro
 65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                 85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225                 230                 235                 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Thr Val Glu
                245                 250                 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
            260                 265                 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
        275                 280                 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
```

```
    290                 295                 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305                 310                 315                 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
                325                 330                 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
            340                 345                 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
        355                 360                 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
    370                 375                 380
```


<210> 41
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. glycinea

<400> 41
atgagaattc acagtgctgg tcacagcctg cccgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgtcc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccga gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgtagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttgcgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 42
<211> 380

<212> PRT
<213> Pseudomonas syringae pv. glycinea

<400> 42

```
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
  1               5                  10                  15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
             20                  25                  30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
         35                  40                  45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
     50                  55                  60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Ser
 65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                 85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Val Ala
225                 230                 235                 240
```

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 43
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. tabaci

<400> 43
atgagaattc acagtgctgg tcacagcctg cctgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg acacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780

```
ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaactgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa                                                               1143
```

<210> 44
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. tabaci

<400> 44

```
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
  1               5                  10                  15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
             20                  25                  30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
         35                  40                  45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
     50                  55                  60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
 65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                 85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175
```

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
195 200 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
210 215 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225 230 235 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
245 250 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
260 265 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
275 280 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
290 295 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305 310 315 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 45
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. tabaci

<400> 45
atgagaattc acagtgctgg tcacagcctg cctgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120

cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg acacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaactgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 46
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. tabaci

<400> 46
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg

```
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225                 230                 235                 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
                245                 250                 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
            260                 265                 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
        275                 280                 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
    290                 295                 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305                 310                 315                 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
                325                 330                 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
            340                 345                 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
        355                 360                 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
```

370 375 380

<210> 47
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. glycinea

<400> 47
atgagaattc acagtgctgg tcacagcctg cccgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgtcc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccga gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgtagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttgcgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 48
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. glycinea

<400> 48
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

```
Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Ser
 65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                 85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Val Ala
225                 230                 235                 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
                245                 250                 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
            260                 265                 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
        275                 280                 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
    290                 295                 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305                 310                 315                 320
```

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
325 330 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
340 345 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
355 360 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
370 375 380

<210> 49
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. phaseolicola

<400> 49
atgagaattc acagtgctgg tcacagcctg cccgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttgcagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ccgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc cacagggcag gccatttctg acacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc gttgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccga gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagtg cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttgcgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaag cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagccggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020
gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 50
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. phaseolicola

<400> 50

```
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
 1               5                  10                  15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
            20                  25                  30

Ala Ser Cys Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
        35                  40                  45

Val Arg Pro Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
    50                  55                  60

Val Ser Ser Thr Gly Gln Ala Ile Ser Asp Thr Pro Ser Ser Leu Pro
65                  70                  75                  80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
                85                  90                  95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Leu Arg Glu Ala Arg
            100                 105                 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
        115                 120                 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
    130                 135                 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Glu Asn Asp Glu
145                 150                 155                 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
                165                 170                 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
            180                 185                 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225                 230                 235                 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Ala Val Glu
                245                 250                 255
```

```
Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
            260                 265                 270

Ala Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
        275                 280                 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
    290                 295                 300

Gly Arg Tyr Gln Pro Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305                 310                 315                 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
                325                 330                 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
            340                 345                 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
        355                 360                 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
    370                 375                 380
```

<210> 51
<211> 1143
<212> DNA
<213> Pseudomonas syringae pv. angulata

<400> 51
atgagaattc acagtgctgg tcacagcctg cctgcgccag gccctagcgt ggaaaccact 60
gaaaaggctg ttcaatcatc atcggcccag aaccccgctt cttacagttc acaaacagaa 120
cgtcctgaag ccggttcgac tcaagtgcga ctgaactacc cttactcatc agtcaagaca 180
cgcttgccac ccgtttcttc tacagggcag gccatttctg ccacgccatc ttcattgccc 240
ggttacctgc tgttacgtcg gctcgaccga cgtccactgg atgaagacag tatcaaggct 300
ctggttccgg cagacgaagc ggtgcgtgaa gcacgccgcg cgttgccctt cggcaggggc 360
aacattgatg tggatgcaca acgtacccac ctgcaaagcg gcgctcgcgc agtcgctgca 420
aagcgcttga gaaaagatgc cgagcgcgct ggccatgagc cgatgcccgg gaatgatgag 480
atgaactggc atgttcttgt cgccatgtca gggcaggtgt ttggcgctgg caactgtggc 540
gaacatgctc gtatagcaag cttcgcttac ggggccctgg ctcaggaaag cgggcgtagt 600
ccccgcgaaa agattcattt ggccgagcag cccggaaaag atcacgtctg ggctgaaacg 660
gataattcca gcgctggctc ttcgcccatc gtcatggacc cgtggtctaa cggcgcagcc 720
attttggcgg aggacagccg gtttgccaaa gatcgcagta cggtagagcg aacatattca 780
ttcacccttg caatggcagc tgaagccggc aaggttacgc gtgaaaccgc cgagaacgtt 840
ctgacccaca cgacaagccg tctgcagaaa cgtcttgctg atcagttgcc gaacgtctca 900
ccgcttgaag gaggccgcta tcagcaggaa aagtcggtgc ttgatgaggc gttcgcccga 960
cgagtgagcg acaagttgaa tagtgacgat ccacggcgtg cgttgcagat ggaaattgaa 1020

gctgttggtg ttgcaatgtc gctgggtgcc gaaggcgtca agacggtcgc ccgacaggcg 1080
ccaaaggtgg tcaggcaagc cagaagcgtc gcgtcgtcta aaggcatgcc tccacgaaga 1140
taa 1143

<210> 52
<211> 380
<212> PRT
<213> Pseudomonas syringae pv. angulata

<400> 52
Met Arg Ile His Ser Ala Gly His Ser Leu Pro Ala Pro Gly Pro Ser
1 5 10 15

Val Glu Thr Thr Glu Lys Ala Val Gln Ser Ser Ser Ala Gln Asn Pro
20 25 30

Ala Ser Tyr Ser Ser Gln Thr Glu Arg Pro Glu Ala Gly Ser Thr Gln
35 40 45

Val Arg Leu Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg Leu Pro Pro
50 55 60

Val Ser Ser Thr Gly Gln Ala Ile Ser Ala Thr Pro Ser Ser Leu Pro
65 70 75 80

Gly Tyr Leu Leu Leu Arg Arg Leu Asp Arg Arg Pro Leu Asp Glu Asp
85 90 95

Ser Ile Lys Ala Leu Val Pro Ala Asp Glu Ala Val Arg Glu Ala Arg
100 105 110

Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp Ala Gln Arg
115 120 125

Thr His Leu Gln Ser Gly Ala Arg Ala Val Ala Ala Lys Arg Leu Arg
130 135 140

Lys Asp Ala Glu Arg Ala Gly His Glu Pro Met Pro Gly Asn Asp Glu
145 150 155 160

Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val Phe Gly Ala
165 170 175

Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala Tyr Gly Ala
180 185 190

Leu Ala Gln Glu Ser Gly Arg Ser Pro Arg Glu Lys Ile His Leu Ala

```
        195                 200                 205

Glu Gln Pro Gly Lys Asp His Val Trp Ala Glu Thr Asp Asn Ser Ser
    210                 215                 220

Ala Gly Ser Ser Pro Ile Val Met Asp Pro Trp Ser Asn Gly Ala Ala
225                 230                 235                 240

Ile Leu Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser Thr Val Glu
                245                 250                 255

Arg Thr Tyr Ser Phe Thr Leu Ala Met Ala Ala Glu Ala Gly Lys Val
            260                 265                 270

Thr Arg Glu Thr Ala Glu Asn Val Leu Thr His Thr Thr Ser Arg Leu
        275                 280                 285

Gln Lys Arg Leu Ala Asp Gln Leu Pro Asn Val Ser Pro Leu Glu Gly
    290                 295                 300

Gly Arg Tyr Gln Gln Glu Lys Ser Val Leu Asp Glu Ala Phe Ala Arg
305                 310                 315                 320

Arg Val Ser Asp Lys Leu Asn Ser Asp Asp Pro Arg Arg Ala Leu Gln
                325                 330                 335

Met Glu Ile Glu Ala Val Gly Val Ala Met Ser Leu Gly Ala Glu Gly
            340                 345                 350

Val Lys Thr Val Ala Arg Gln Ala Pro Lys Val Val Arg Gln Ala Arg
        355                 360                 365

Ser Val Ala Ser Ser Lys Gly Met Pro Pro Arg Arg
    370                 375                 380
```

<210> 53
<211> 1155
<212> DNA
<213> Pseudomonas syringae pv. delphinii

<400> 53
atgaaaatac ataacgctgg cccaagcatt ccgatgcccg ctccatcgat tgagagcgct 60
ggcaagactg cgcaatcatc attggctcaa ccgcagagcc aacgagccac ccccgtctcg 120
ccatcagaga cttctgatgc ccgtccgtcc agtgtgcgta cgaactaccc ttattcatca 180
gtcaaaacac ggttgcctcc cgttgcgtct gcagggcagc cactgtccgg gatgccgtct 240
tcattacccg gctacttgct gttacgtcgg cttgaccatc gtccactgga tcaagacggt 300
atcaaaggtt tgattccagc agatgaagcg gtgggtgaag cacgtcgcgc gttgcctttc 360

```
ggcaggggca atatcgacgt ggatgcgcaa cgctccaact tggaaagcgg agcccgcaca 420
ctcgcggcta ggcgtttgag aaaagatgcc gaggccgcgg gtcacgaacc aatgcctgca 480
aatgaagata tgaactggca tgttcttgtt gcgatgtcag gacaggtttt tggcgcaggt 540
aactgcgggg aacatgcccg catagcgagt ttcgcctacg gtgcactggc tcaggaaaaa 600
gggcggaacg ccgatgagac tattcatttg gctgcgcaac gcggtaaaga ccacgtctgg 660
gctgaaacgg acaattcaag cgctggatct tcaccggttg tcatggatcc gtggtcgaac 720
ggtcctgcca tttttgcgga ggatagtcgg tttgccaaag atcgaagtac ggtagaacga 780
acggattcct tcacgcttgc aactgctgct gaagcaggca agatcacgcg agagacggcc 840
gagaatgctt tgacacaggc gaccagccgt ttgcagaaac gtcttgctga tcagaaaacg 900
caagtctcgc cgcttgcagg agggcgctat cggcaagaaa attcggtgct tgatgacgcg 960
ttcgcccgac gggcaagtgg caagttgagc aacaaggatc cgcggcatgc attacaggtg 1020
gaaatcgagg cggccgcagt tgcaatgtcg ctgggcgccc aaggcgtaaa agcggttgcg 1080
gaacaggccc ggacggtagt tgaacaagcc aggaaggtcg catctcccca aggcacgcct 1140
cagcgagata cgtga                                                  1155
```

<210> 54
<211> 384
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 54

```
Met Lys Ile His Asn Ala Gly Pro Ser Ile Pro Met Pro Ala Pro Ser
  1               5                  10                  15

Ile Glu Ser Ala Gly Lys Thr Ala Gln Ser Ser Leu Ala Gln Pro Gln
             20                  25                  30

Ser Gln Arg Ala Thr Pro Val Ser Pro Ser Glu Thr Ser Asp Ala Arg
         35                  40                  45

Pro Ser Ser Val Arg Thr Asn Tyr Pro Tyr Ser Ser Val Lys Thr Arg
     50                  55                  60

Leu Pro Pro Val Ala Ser Ala Gly Gln Pro Leu Ser Gly Met Pro Ser
 65                  70                  75                  80

Ser Leu Pro Gly Tyr Leu Leu Leu Arg Arg Leu Asp His Arg Pro Leu
                 85                  90                  95

Asp Gln Asp Gly Ile Lys Gly Leu Ile Pro Ala Asp Glu Ala Val Gly
            100                 105                 110

Glu Ala Arg Arg Ala Leu Pro Phe Gly Arg Gly Asn Ile Asp Val Asp
        115                 120                 125

Ala Gln Arg Ser Asn Leu Glu Ser Gly Ala Arg Thr Leu Ala Ala Arg
    130                 135                 140
```

```
Arg Leu Arg Lys Asp Ala Glu Ala Ala Gly His Glu Pro Met Pro Ala
145                 150                 155                 160

Asn Glu Asp Met Asn Trp His Val Leu Val Ala Met Ser Gly Gln Val
                165                 170                 175

Phe Gly Ala Gly Asn Cys Gly Glu His Ala Arg Ile Ala Ser Phe Ala
            180                 185                 190

Tyr Gly Ala Leu Ala Gln Glu Lys Gly Arg Asn Ala Asp Glu Thr Ile
        195                 200                 205

His Leu Ala Ala Gln Arg Gly Lys Asp His Val Trp Ala Glu Thr Asp
    210                 215                 220

Asn Ser Ser Ala Gly Ser Ser Pro Val Val Met Asp Pro Trp Ser Asn
225                 230                 235                 240

Gly Pro Ala Ile Phe Ala Glu Asp Ser Arg Phe Ala Lys Asp Arg Ser
                245                 250                 255

Thr Val Glu Arg Thr Asp Ser Phe Thr Leu Ala Thr Ala Ala Glu Ala
            260                 265                 270

Gly Lys Ile Thr Arg Glu Thr Ala Glu Asn Ala Leu Thr Gln Ala Thr
        275                 280                 285

Ser Arg Leu Gln Lys Arg Leu Ala Asp Gln Lys Thr Gln Val Ser Pro
    290                 295                 300

Leu Ala Gly Gly Arg Tyr Arg Gln Glu Asn Ser Val Leu Asp Asp Ala
305                 310                 315                 320

Phe Ala Arg Arg Ala Ser Gly Lys Leu Ser Asn Lys Asp Pro Arg His
                325                 330                 335

Ala Leu Gln Val Glu Ile Glu Ala Ala Ala Val Ala Met Ser Leu Gly
            340                 345                 350

Ala Gln Gly Val Lys Ala Val Ala Glu Gln Ala Arg Thr Val Val Glu
        355                 360                 365

Gln Ala Arg Lys Val Ala Ser Pro Gln Gly Thr Pro Gln Arg Asp Thr
    370                 375                 380
```

<210> 55
<211> 951
<212> DNA
<213> Pseudomonas syringae pv. delphinii

<400> 55
gtggttgagc gaaccggcac tgcatatcga aggcgtggag cagcctgctc gcgtatcacg 60
agccaaaatc aggtccgacg acgctttgga attacggtga atcagatgca aaagacgtcc 120
ctattggctt tggcctttgc aatcctggca gggtgtgggg gttcggggca ggcgccgggg 180
agtgatattc agggtgccca ggcagagatg aaaacaccca ttaaagtaga tctggatgcc 240
tacacctcaa aaaaacttga tgctgtgttg gaagctcggg ccaataaaag ctatgtgaat 300
aaaggtcaac tgatcgacct tgtgtcaggg gcgtttttgg gaacaccgta ccgctcaaac 360
atgttggtgg gcacagagga aatacctgaa cagttagtca tcgactttag aggtctggat 420
tgttttgctt atctggatta cgtagaggcg ttgcgaagat caacatcgca gcaggatttt 480
gtgaggaatc tcgttcaggt tcgttacaag ggtggtgatg ttgacttttt gaatcgcaag 540
cacttttca cggattgggc ttatggcact acacacccgg tggcggatga catcaccacg 600
cagataagcc ccggtgcggt aagtgtcaga aaacgcctta atgaaagggc caaaggcaaa 660
gtctatctgc caggtttgcc tgtggttgag cgcagcatga cctatatccc gagccgcctt 720
gtcgacagtc aggtggtaag ccacttgcgc acaggtgatt acatcggcat ttacaccccg 780
cttcccgggc tggatgtgac gcacgtcggt ttctttatca tgacggataa aggccctgtc 840
ttgcgaaatg catcttcacg aaaagaaaac agaaaggtaa tggatttgcc ttttctggac 900
tatgtatcgg aaaagccagg gattgttgtt ttcagggcaa aagacaattg a 951

<210> 56
<211> 316
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 56
Val Val Glu Arg Thr Gly Thr Ala Tyr Arg Arg Arg Gly Ala Ala Cys
1 5 10 15

Ser Arg Ile Thr Ser Gln Asn Gln Val Arg Arg Arg Phe Gly Ile Thr
20 25 30

Val Asn Gln Met Gln Lys Thr Ser Leu Leu Ala Leu Ala Phe Ala Ile
35 40 45

Leu Ala Gly Cys Gly Gly Ser Gly Gln Ala Pro Gly Ser Asp Ile Gln
50 55 60

Gly Ala Gln Ala Glu Met Lys Thr Pro Ile Lys Val Asp Leu Asp Ala
65 70 75 80

Tyr Thr Ser Lys Lys Leu Asp Ala Val Leu Glu Ala Arg Ala Asn Lys

```
                85                  90                  95

Ser Tyr Val Asn Lys Gly Gln Leu Ile Asp Leu Val Ser Gly Ala Phe
            100                 105                 110

Leu Gly Thr Pro Tyr Arg Ser Asn Met Leu Val Gly Thr Glu Glu Ile
        115                 120                 125

Pro Glu Gln Leu Val Ile Asp Phe Arg Gly Leu Asp Cys Phe Ala Tyr
    130                 135                 140

Leu Asp Tyr Val Glu Ala Leu Arg Arg Ser Thr Ser Gln Gln Asp Phe
145                 150                 155                 160

Val Arg Asn Leu Val Gln Val Arg Tyr Lys Gly Gly Asp Val Asp Phe
                165                 170                 175

Leu Asn Arg Lys His Phe Phe Thr Asp Trp Ala Tyr Gly Thr Thr His
            180                 185                 190

Pro Val Ala Asp Asp Ile Thr Thr Gln Ile Ser Pro Gly Ala Val Ser
        195                 200                 205

Val Arg Lys Arg Leu Asn Glu Arg Ala Lys Gly Lys Val Tyr Leu Pro
    210                 215                 220

Gly Leu Pro Val Val Glu Arg Ser Met Thr Tyr Ile Pro Ser Arg Leu
225                 230                 235                 240

Val Asp Ser Gln Val Val Ser His Leu Arg Thr Gly Asp Tyr Ile Gly
                245                 250                 255

Ile Tyr Thr Pro Leu Pro Gly Leu Asp Val Thr His Val Gly Phe Phe
            260                 265                 270

Ile Met Thr Asp Lys Gly Pro Val Leu Arg Asn Ala Ser Ser Arg Lys
        275                 280                 285

Glu Asn Arg Lys Val Met Asp Leu Pro Phe Leu Asp Tyr Val Ser Glu
    290                 295                 300

Lys Pro Gly Ile Val Val Phe Arg Ala Lys Asp Asn
305                 310                 315
```

<210> 57
<211> 396
<212> DNA

<213> Pseudomonas syringae pv. delphinii

<400> 57
atgaaaaact catttgatct tcttgtcgac ggtttggcga aagactacag catgccgaat 60
ttgccgaaca agaaacacga caatgaagtc tattgcttca cattccagag cgggctcgaa 120
gtaaacattt atcaggacga ctgtcgatgg gtgcatttct ccgccacaat cggacaattt 180
caagacgcca gcaatgacac gctcagccac gcacttcaac tgaacaattt cagtcttgga 240
aagcccttct tcacctttgg aatgaacgga gaaaaggtcg gcgtacttca cacacgcgtt 300
ccgttgattg aaatgaatac cgttgaaatg cgcaaggtat tcgaggactt gctcgatgta 360
gcaggcggca tcagagcgac attcaagctc agttaa 396

<210> 58
<211> 131
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 58
Met Lys Asn Ser Phe Asp Leu Leu Val Asp Gly Leu Ala Lys Asp Tyr
1 5 10 15

Ser Met Pro Asn Leu Pro Asn Lys Lys His Asp Asn Glu Val Tyr Cys
20 25 30

Phe Thr Phe Gln Ser Gly Leu Glu Val Asn Ile Tyr Gln Asp Asp Cys
35 40 45

Arg Trp Val His Phe Ser Ala Thr Ile Gly Gln Phe Gln Asp Ala Ser
50 55 60

Asn Asp Thr Leu Ser His Ala Leu Gln Leu Asn Asn Phe Ser Leu Gly
65 70 75 80

Lys Pro Phe Phe Thr Phe Gly Met Asn Gly Glu Lys Val Gly Val Leu
85 90 95

His Thr Arg Val Pro Leu Ile Glu Met Asn Thr Val Glu Met Arg Lys
100 105 110

Val Phe Glu Asp Leu Leu Asp Val Ala Gly Gly Ile Arg Ala Thr Phe
115 120 125

Lys Leu Ser
130

<210> 59
<211> 648

<212> DNA
<213> Pseudomonas syringae pv. delphinii

<400> 59
atgagtacta tacctggcac ctcgggcgct cacccgattt atagctcaat ttccagccca 60
cgaaatatgt ctggctcgcc cacaccgagt caccgtattg gcggggaaac cctgacctct 120
attcatcagc tctctgccag ccagagagaa caatttctga atactcatga ccccatgaga 180
aaactcagga ttaacaatga tacgccactg tacagaacaa ccgagaagcg ttttatacag 240
gaaggcaaac tggccggcaa tccaaagtct attgcacgtg tcaacttgca cgaagaactg 300
cagcttaatc cgctcgccag tattttaggg aacttacctc acgaggcaag cgcttacttt 360
ccgaaaagcg cccgcgctgc ggatctgaaa gacccttcat tgaatgtaat gacaggctct 420
cgggcaaaaa atgctattcg cggctacgct catgacgacc atgtggcggt caagatgcga 480
ctgggcgact ttcttgaaaa aggcggcaag gtgtacgcgg acacttcatc agtcattgac 540
ggcggagacg aggcgagcgc gctgatcgtt acattgccta aaggacaaaa agttccagtc 600
gagattatcc ctacccataa cgacaacagc aataaaggca gaggctga 648

<210> 60
<211> 215
<212> PRT
<213> Pseudomonas syringae pv. delphinii

<400> 60
Met Ser Thr Ile Pro Gly Thr Ser Gly Ala His Pro Ile Tyr Ser Ser
1 5 10 15

Ile Ser Ser Pro Arg Asn Met Ser Gly Ser Pro Thr Pro Ser His Arg
20 25 30

Ile Gly Gly Glu Thr Leu Thr Ser Ile His Gln Leu Ser Ala Ser Gln
35 40 45

Arg Glu Gln Phe Leu Asn Thr His Asp Pro Met Arg Lys Leu Arg Ile
50 55 60

Asn Asn Asp Thr Pro Leu Tyr Arg Thr Thr Glu Lys Arg Phe Ile Gln
65 70 75 80

Glu Gly Lys Leu Ala Gly Asn Pro Lys Ser Ile Ala Arg Val Asn Leu
85 90 95

His Glu Glu Leu Gln Leu Asn Pro Leu Ala Ser Ile Leu Gly Asn Leu
100 105 110

Pro His Glu Ala Ser Ala Tyr Phe Pro Lys Ser Ala Arg Ala Ala Asp
115 120 125

Leu Lys Asp Pro Ser Leu Asn Val Met Thr Gly Ser Arg Ala Lys Asn

```
    130                 135                 140

Ala Ile Arg Gly Tyr Ala His Asp Asp His Val Ala Val Lys Met Arg
145                 150                 155                 160

Leu Gly Asp Phe Leu Glu Lys Gly Gly Lys Val Tyr Ala Asp Thr Ser
                165                 170                 175

Ser Val Ile Asp Gly Gly Asp Glu Ala Ser Ala Leu Ile Val Thr Leu
            180                 185                 190

Pro Lys Gly Gln Lys Val Pro Val Glu Ile Ile Pro Thr His Asn Asp
        195                 200                 205

Asn Ser Asn Lys Gly Arg Gly
    210                 215
```


<210> 61
<211> 1128
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 61

```
gtgaacccta tccatgcacg cttctccagc gtagaagcgc tcagacattc aaacgttgat 60
attcaggcaa tcaaatccga gggtcagttg gaagtcaacg gcaagcgtta cgagattcgt 120
gcggccgctg acggctcaat cgcggtcctc agacccgatc aacagtccaa agcagacaag 180
ttcttcaaag gcgcagcgca tcttattggc ggacaaagcc agcgtgccca aatagcccag 240
gtactcaacg agaaagcggc ggcagttcca cgcctggaca gaatgttggg cagacgcttc 300
gatctggaga agggcggaag tagcgctgtg ggcgccgcaa tcaaggctgc cgacagccga 360
ctgacatcaa aacagacatt tgccagcttc cagcaatggg ctgaaaaagc tgaggcgctc 420
gggcgcgata ccgaaatcgg tatctacatg atctacaaga gggacacgcc agacacaacg 480
cctatgaatg cggcagagca agaacattac ctggaaacgc tacaggctct cgataacaag 540
aaaaacctta tcatacgccc gcagatccat gatgatcggg aagaggaaga gcttgatctg 600
ggccgataca tcgctgaaga cagaaatgcc agaaccggct tttttagaat ggttcctaaa 660
gaccaacgcg cacctgagac aaactcggga cgacttacca ttggtgtaga acctaaatat 720
ggagcgcagt tggccctcgc aatggcaacc ctgatggaca agcacaaatc tgtgacacaa 780
ggtaaagtcg tcggtccggc aaaatatggc cagcaaactg actctgccat tctttacata 840
aatggtgatc ttgcaaaagc agtaaaactg ggcgaaaagc tgaaaaagct gagcggtatc 900
cctcctgaag gattcgtcga acatacaccg ctaagcatgc agtcgacggg tctcggtctt 960
tcttatgccg agtcggttga agggcagcct tccagccacg gacaggcgag aacacacgtt 1020
atcatggatg ccttgaaagg ccagggcccc atggagaaca gactcaaaat ggcgctggca 1080
gaaagaggct atgacccgga aaatccggcg ctcagggcgc gaaactga              1128
```

<210> 62
<211> 375
<212> PRT

<213> Pseudomonas syringae pv. syringae

<400> 62

```
Val Asn Pro Ile His Ala Arg Phe Ser Ser Val Glu Ala Leu Arg His
  1               5                  10                  15

Ser Asn Val Asp Ile Gln Ala Ile Lys Ser Glu Gly Gln Leu Glu Val
             20                  25                  30

Asn Gly Lys Arg Tyr Glu Ile Arg Ala Ala Ala Asp Gly Ser Ile Ala
         35                  40                  45

Val Leu Arg Pro Asp Gln Gln Ser Lys Ala Asp Lys Phe Phe Lys Gly
     50                  55                  60

Ala Ala His Leu Ile Gly Gly Gln Ser Gln Arg Ala Gln Ile Ala Gln
 65                  70                  75                  80

Val Leu Asn Glu Lys Ala Ala Ala Val Pro Arg Leu Asp Arg Met Leu
                 85                  90                  95

Gly Arg Arg Phe Asp Leu Glu Lys Gly Gly Ser Ser Ala Val Gly Ala
            100                 105                 110

Ala Ile Lys Ala Ala Asp Ser Arg Leu Thr Ser Lys Gln Thr Phe Ala
        115                 120                 125

Ser Phe Gln Gln Trp Ala Glu Lys Ala Glu Ala Leu Gly Arg Asp Thr
    130                 135                 140

Glu Ile Gly Ile Tyr Met Ile Tyr Lys Arg Asp Thr Pro Asp Thr Thr
145                 150                 155                 160

Pro Met Asn Ala Ala Glu Gln Glu His Tyr Leu Glu Thr Leu Gln Ala
                165                 170                 175

Leu Asp Asn Lys Lys Asn Leu Ile Ile Arg Pro Gln Ile His Asp Asp
            180                 185                 190

Arg Glu Glu Glu Glu Leu Asp Leu Gly Arg Tyr Ile Ala Glu Asp Arg
        195                 200                 205

Asn Ala Arg Thr Gly Phe Phe Arg Met Val Pro Lys Asp Gln Arg Ala
    210                 215                 220

Pro Glu Thr Asn Ser Gly Arg Leu Thr Ile Gly Val Glu Pro Lys Tyr
225                 230                 235                 240
```

Gly Ala Gln Leu Ala Leu Ala Met Ala Thr Leu Met Asp Lys His Lys
245 250 255

Ser Val Thr Gln Gly Lys Val Val Gly Pro Ala Lys Tyr Gly Gln Gln
260 265 270

Thr Asp Ser Ala Ile Leu Tyr Ile Asn Gly Asp Leu Ala Lys Ala Val
275 280 285

Lys Leu Gly Glu Lys Leu Lys Lys Leu Ser Gly Ile Pro Pro Glu Gly
290 295 300

Phe Val Glu His Thr Pro Leu Ser Met Gln Ser Thr Gly Leu Gly Leu
305 310 315 320

Ser Tyr Ala Glu Ser Val Glu Gly Gln Pro Ser Ser His Gly Gln Ala
325 330 335

Arg Thr His Val Ile Met Asp Ala Leu Lys Gly Gln Gly Pro Met Glu
340 345 350

Asn Arg Leu Lys Met Ala Leu Ala Glu Arg Gly Tyr Asp Pro Glu Asn
355 360 365

Pro Ala Leu Arg Ala Arg Asn
370 375

<210> 63
<211> 1149
<212> DNA
<213> Pseudomonas syringae pv. atrofaciens

<400> 63
atgaacccga tacaaacgcg tttctctaac gtcgaagcac ttagacattc agaggtggat 60
gtacaggagc tcaaagcaca cggtcaaata gaagtgggtg gcaaatgcta cgacattcgc 120
gcggctgcca ataacgacct gactgtccag cgttctgaca aacagatggc gatgagcaag 180
tttttcaaaa aagcagggtt aagtgggagt tccggcagtc agtccgatca aattgcgcag 240
gtactgaatg acaagcgcgg ctcttccgtt ccccgtctta tacgccaggg gcagacccat 300
ctgggccgta tgcaattcaa catcgaagag gggcaaggca gttcggccgc cacgtccgtc 360
cagaacagca ggctgcccaa tggccgcttg gtaaacagca gtattttgca atgggtcgaa 420
aaggcgaaag ccaatggcag cacaagtacc agtgctcttt atcagatcta cgcaaaagaa 480
ctcccgcgtg tagaactgct gccacgcact gagcaccggg cgtgtctggc gcatatgtat 540
aagctgaacg gtaaggacgg tatcagtatt tggccgcagt ttctggatgg cgtgcgcggg 600
ttgcagctaa aacatgacac aaaagtgttc atgatgaaca accccaaagc agcggacgag 660
ttctacaaga tcgaacgttc gggcacgcaa tttccggatg aggctgtcaa ggcgcgcctg 720
acgataaatg tcaaacctca attccagaag gccatggtcg acgcagcggt caggttgacc 780
gctgagcgtc acgatatcat tactgccaaa gtggcaggtc ctgcaaagat tggcacgatt 840

acagatgcag cggttttcta tgtaagcgga gatttttccg ctgcgcagac acttgcaaaa 900
gagcttcagg cactgctccc tgacgatgcg tttatcaatc atacgccagc tggaatgcaa 960
tccatgggca aggggctgtg ttacgccgag cgtacaccgc aggacaggac aagccacgga 1020
atgtcgcgcg ccagcataat cgagtcggca ctggcagaca ccagcaggtc gtcactggag 1080
aagaagctgc gcaatgcttt caagagcgcc ggatacaatc ccgacaaccc ggcattcagg 1140
ttggaatga 1149

<210> 64
<211> 382
<212> PRT
<213> Pseudomonas syringae pv. atrofaciens

<400> 64
Met Asn Pro Ile Gln Thr Arg Phe Ser Asn Val Glu Ala Leu Arg His
1 5 10 15

Ser Glu Val Asp Val Gln Glu Leu Lys Ala His Gly Gln Ile Glu Val
20 25 30

Gly Gly Lys Cys Tyr Asp Ile Arg Ala Ala Ala Asn Asn Asp Leu Thr
35 40 45

Val Gln Arg Ser Asp Lys Gln Met Ala Met Ser Lys Phe Phe Lys Lys
50 55 60

Ala Gly Leu Ser Gly Ser Ser Gly Ser Gln Ser Asp Gln Ile Ala Gln
65 70 75 80

Val Leu Asn Asp Lys Arg Gly Ser Ser Val Pro Arg Leu Ile Arg Gln
85 90 95

Gly Gln Thr His Leu Gly Arg Met Gln Phe Asn Ile Glu Glu Gly Gln
100 105 110

Gly Ser Ser Ala Ala Thr Ser Val Gln Asn Ser Arg Leu Pro Asn Gly
115 120 125

Arg Leu Val Asn Ser Ser Ile Leu Gln Trp Val Glu Lys Ala Lys Ala
130 135 140

Asn Gly Ser Thr Ser Thr Ser Ala Leu Tyr Gln Ile Tyr Ala Lys Glu
145 150 155 160

Leu Pro Arg Val Glu Leu Leu Pro Arg Thr Glu His Arg Ala Cys Leu
165 170 175

Ala His Met Tyr Lys Leu Asn Gly Lys Asp Gly Ile Ser Ile Trp Pro

```
            180                 185                 190

Gln Phe Leu Asp Gly Val Arg Gly Leu Gln Leu Lys His Asp Thr Lys
        195                 200                 205

Val Phe Met Met Asn Asn Pro Lys Ala Ala Asp Glu Phe Tyr Lys Ile
    210                 215                 220

Glu Arg Ser Gly Thr Gln Phe Pro Asp Glu Ala Val Lys Ala Arg Leu
225                 230                 235                 240

Thr Ile Asn Val Lys Pro Gln Phe Gln Lys Ala Met Val Asp Ala Ala
                245                 250                 255

Val Arg Leu Thr Ala Glu Arg His Asp Ile Ile Thr Ala Lys Val Ala
            260                 265                 270

Gly Pro Ala Lys Ile Gly Thr Ile Thr Asp Ala Ala Val Phe Tyr Val
        275                 280                 285

Ser Gly Asp Phe Ser Ala Ala Gln Thr Leu Ala Lys Glu Leu Gln Ala
    290                 295                 300

Leu Leu Pro Asp Asp Ala Phe Ile Asn His Thr Pro Ala Gly Met Gln
305                 310                 315                 320

Ser Met Gly Lys Gly Leu Cys Tyr Ala Glu Arg Thr Pro Gln Asp Arg
                325                 330                 335

Thr Ser His Gly Met Ser Arg Ala Ser Ile Ile Glu Ser Ala Leu Ala
            340                 345                 350

Asp Thr Ser Arg Ser Ser Leu Glu Lys Lys Leu Arg Asn Ala Phe Lys
        355                 360                 365

Ser Ala Gly Tyr Asn Pro Asp Asn Pro Ala Phe Arg Leu Glu
    370                 375                 380
```

<210> 65
<211> 1464
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 65
atgcacatca accaatccgc ccaacaaccg cctggcgttg caatggagag ttttcggaca 60
gcttccgacg cgtcccttgc ttcgagttct gtgcggtctg tcagcactac ctcgtgccgc 120
gatctacaag ctattaccga ttatctgaaa catcacgtgt tcgctgcgca caggttttcg 180

gtaataggct caccggatga gcgtgatgcc gctcttgcac acaacgagca gatcgatgcg 240
ttggtagaga cacgcgccaa ccgcctgtac tccgaagggg agacccccgc aaccatcgcc 300
gaaacattcg ccaaggcgga aaagttcgac cgtttggcga cgaccgcatc aagtgctttt 360
gagaacacgc catttgccgc tgcctcggtg cttcagtaca tgcagcctgc gatcaacaag 420
ggcgattggc tagcaacgcc gctcaagccg ctgaccccgc tcatttccgg agcgctgtcg 480
ggagccatgg accaggtggg caccaaaatg atggatcgtg cgaggggtga tctgcattac 540
ctgagcactt cgccggacaa gttgcatgat gcgatggccg tatcggtgaa gcgccactcg 600
cctgcgcttg gtcgacaggt tgtggacatg gggattgcag tgcagacgtt ctcggcgcta 660
aatgtggtgc gtaccgtatt ggctccagca ctagcgtcca gaccgtcggt gcagggtgct 720
gttgattttg gcgtatctac ggcgggtggc ttggttgcga atgcaggctt tggcgaccgc 780
atgctcagtg tgcaatcgcg cgatcaactg cgtgggggggg cattcgtact tggcatgaaa 840
gataaagagc ccaaggccgc gttgagtgaa gaaactgatt ggcttgatgc ttacaaagcg 900
atcaagtcgg ccagctactc aggtgcggcg ctcaatgcgg gcaagcggat ggccggcctg 960
ccactggacg tcgcgaccga cgggctcaag gcggtgagaa gtctggtgtc ggccaccagc 1020
ctgacaaaaa atggcctggc cctagccggt ggttacgccg gggtaagtaa gttgcagaaa 1080
atggcgacga aaaatatcac tgattcggcg accaaggctg cggttagtca gctgagcaac 1140
ctggtgggtt cggtaggcgt tttcgcaggc tggaccaccg ctggactggc gactgaccct 1200
gcggttaaga aagccgagtc gtttatacag gataaggtga aatcgaccgc atctagtacc 1260
acaagctatg ttgccgacca gaccgtcaaa ctggcgaaaa cagtcaagga catgagcggg 1320
gaggcgatct ccagcaccgg tgccagctta cgcagtactg tcaataacct gcgtcatcgc 1380
tccgctccgg aagctgatat cgaagaaggt gggatttcgg cgttttctcg aagtgaaaca 1440
ccgtttcagc tcaggcgttt gtaa 1464

<210> 66
<211> 487
<212> PRT
<213> Pseudomonas syringae pv. tomato

<400> 66
Met His Ile Asn Gln Ser Ala Gln Gln Pro Pro Gly Val Ala Met Glu
1 5 10 15

Ser Phe Arg Thr Ala Ser Asp Ala Ser Leu Ala Ser Ser Ser Val Arg
20 25 30

Ser Val Ser Thr Thr Ser Cys Arg Asp Leu Gln Ala Ile Thr Asp Tyr
35 40 45

Leu Lys His His Val Phe Ala Ala His Arg Phe Ser Val Ile Gly Ser
50 55 60

Pro Asp Glu Arg Asp Ala Ala Leu Ala His Asn Glu Gln Ile Asp Ala
65 70 75 80

Leu Val Glu Thr Arg Ala Asn Arg Leu Tyr Ser Glu Gly Glu Thr Pro
85 90 95

```
Ala Thr Ile Ala Glu Thr Phe Ala Lys Ala Glu Lys Phe Asp Arg Leu
            100                 105                 110

Ala Thr Thr Ala Ser Ser Ala Phe Glu Asn Thr Pro Phe Ala Ala Ala
        115                 120                 125

Ser Val Leu Gln Tyr Met Gln Pro Ala Ile Asn Lys Gly Asp Trp Leu
    130                 135                 140

Ala Thr Pro Leu Lys Pro Leu Thr Pro Leu Ile Ser Gly Ala Leu Ser
145                 150                 155                 160

Gly Ala Met Asp Gln Val Gly Thr Lys Met Met Asp Arg Ala Arg Gly
                165                 170                 175

Asp Leu His Tyr Leu Ser Thr Ser Pro Asp Lys Leu His Asp Ala Met
            180                 185                 190

Ala Val Ser Val Lys Arg His Ser Pro Ala Leu Gly Arg Gln Val Val
        195                 200                 205

Asp Met Gly Ile Ala Val Gln Thr Phe Ser Ala Leu Asn Val Val Arg
    210                 215                 220

Thr Val Leu Ala Pro Ala Leu Ala Ser Arg Pro Ser Val Gln Gly Ala
225                 230                 235                 240

Val Asp Phe Gly Val Ser Thr Ala Gly Gly Leu Val Ala Asn Ala Gly
                245                 250                 255

Phe Gly Asp Arg Met Leu Ser Val Gln Ser Arg Asp Gln Leu Arg Gly
            260                 265                 270

Gly Ala Phe Val Leu Gly Met Lys Asp Lys Glu Pro Lys Ala Ala Leu
        275                 280                 285

Ser Glu Glu Thr Asp Trp Leu Asp Ala Tyr Lys Ala Ile Lys Ser Ala
    290                 295                 300

Ser Tyr Ser Gly Ala Ala Leu Asn Ala Gly Lys Arg Met Ala Gly Leu
305                 310                 315                 320

Pro Leu Asp Val Ala Thr Asp Gly Leu Lys Ala Val Arg Ser Leu Val
                325                 330                 335

Ser Ala Thr Ser Leu Thr Lys Asn Gly Leu Ala Leu Ala Gly Gly Tyr
            340                 345                 350
```

Ala Gly Val Ser Lys Leu Gln Lys Met Ala Thr Lys Asn Ile Thr Asp
355 360 365

Ser Ala Thr Lys Ala Ala Val Ser Gln Leu Ser Asn Leu Val Gly Ser
370 375 380

Val Gly Val Phe Ala Gly Trp Thr Thr Ala Gly Leu Ala Thr Asp Pro
385 390 395 400

Ala Val Lys Lys Ala Glu Ser Phe Ile Gln Asp Lys Val Lys Ser Thr
405 410 415

Ala Ser Ser Thr Thr Ser Tyr Val Ala Asp Gln Thr Val Lys Leu Ala
420 425 430

Lys Thr Val Lys Asp Met Ser Gly Glu Ala Ile Ser Ser Thr Gly Ala
435 440 445

Ser Leu Arg Ser Thr Val Asn Asn Leu Arg His Arg Ser Ala Pro Glu
450 455 460

Ala Asp Ile Glu Glu Gly Gly Ile Ser Ala Phe Ser Arg Ser Glu Thr
465 470 475 480

Pro Phe Gln Leu Arg Arg Leu
485

<210> 67
<211> 88
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 67
gccctgatgg cggaattggt agacgcggcg gattcaaaat ccgttttcga aagaagtggg 60
agttcgattc tccctcgggg caccacca 88

<210> 68
<211> 85
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 68
gccctgatgg cggaattggt agacgcggcg gattcaaaat ccgttttcga aagaagtggg 60
agttcgattc tccctcgggg cacca 85

<210> 69
<211> 1065
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 69
atgcgcgtcg ctgactttac cttcgaactc cccgattccc tgattgctcg tcacccgttg 60
gccgagcgtc gcagcagtcg tctgttgacc cttgatgggc cgacgggcgc gctggcacat 120
cgtcaattca ccgatttgct cgagcatttg cgctcgggcg acttgatggt gttcaacaat 180
acccgtgtca ttcccgcacg tttgttcggg cagaaggcgt ccggcggcaa gctggagatt 240
ctggtcgagc gcgtgctgga cagccatcgt gtgctggcgc acgtgcgtgc cagcaagtcg 300
ccaaagccgg gctcgtcgat cctgatcgat ggcggcggcg aggccgagat ggtggcgcgg 360
catgacgcgc tgttcgagtt gcgctttgcc gaagaagtgc tgccgttgct ggatcgtgtc 420
ggccatatgc cgttgcctcc ttatatagac cgcccggacg aaggtgccga ccgcgagcgt 480
tatcagaccg tttacgccca gcgcgccggt gctgtggcgg cgccgactgc cggcctgcat 540
ttcgaccagc cgttgatgga agcaattgcc gccaagggcg tcgagactgc ttttgtcact 600
ctgcacgtcg gcgcgggtac gttccagccg gtgcgtgtcg agcagatcga agatcaccac 660
atgcacagcg aatggctgga agtcagccag gacgtggtcg atgccgtggc ggcgtgccgt 720
gcgcggggcg ggcgggtgat tgcggtcggg accaccagcg tgcgttcgct ggagagtgcc 780
gcgcgtgatg gccagttgaa gccgtttagc ggcgacaccg acatcttcat ctatccgggg 840
cggccgtttc atgtggtcga tgccctggtg actaattttc atttgcctga atccacgctg 900
ttgatgctgg tttcggcgtt cgccggttat cccgaaacca tggcggccta cgcggcggcc 960
atcgaacacg ggtaccgctt cttcagttac ggtgatgcca tgttcatcac ccgcaatccc 1020
gcgccgacgg ccccacagga atcggcacca gaggatcacg catga 1065

<210> 70
<211> 354
<212> PRT
<213> Pseudomonas syringae pv. tomato

<400> 70
Met Arg Val Ala Asp Phe Thr Phe Glu Leu Pro Asp Ser Leu Ile Ala
1 5 10 15

Arg His Pro Leu Ala Glu Arg Arg Ser Ser Arg Leu Leu Thr Leu Asp
20 25 30

Gly Pro Thr Gly Ala Leu Ala His Arg Gln Phe Thr Asp Leu Leu Glu
35 40 45

His Leu Arg Ser Gly Asp Leu Met Val Phe Asn Asn Thr Arg Val Ile
50 55 60

Pro Ala Arg Leu Phe Gly Gln Lys Ala Ser Gly Gly Lys Leu Glu Ile
65 70 75 80

Leu Val Glu Arg Val Leu Asp Ser His Arg Val Leu Ala His Val Arg

85 90 95

Ala Ser Lys Ser Pro Lys Pro Gly Ser Ser Ile Leu Ile Asp Gly Gly
100 105 110

Gly Glu Ala Glu Met Val Ala Arg His Asp Ala Leu Phe Glu Leu Arg
115 120 125

Phe Ala Glu Glu Val Leu Pro Leu Leu Asp Arg Val Gly His Met Pro
130 135 140

Leu Pro Pro Tyr Ile Asp Arg Pro Asp Glu Gly Ala Asp Arg Glu Arg
145 150 155 160

Tyr Gln Thr Val Tyr Ala Gln Arg Ala Gly Ala Val Ala Ala Pro Thr
165 170 175

Ala Gly Leu His Phe Asp Gln Pro Leu Met Glu Ala Ile Ala Ala Lys
180 185 190

Gly Val Glu Thr Ala Phe Val Thr Leu His Val Gly Ala Gly Thr Phe
195 200 205

Gln Pro Val Arg Val Glu Gln Ile Glu Asp His His Met His Ser Glu
210 215 220

Trp Leu Glu Val Ser Gln Asp Val Val Asp Ala Val Ala Ala Cys Arg
225 230 235 240

Ala Arg Gly Gly Arg Val Ile Ala Val Gly Thr Thr Ser Val Arg Ser
245 250 255

Leu Glu Ser Ala Ala Arg Asp Gly Gln Leu Lys Pro Phe Ser Gly Asp
260 265 270

Thr Asp Ile Phe Ile Tyr Pro Gly Arg Pro Phe His Val Val Asp Ala
275 280 285

Leu Val Thr Asn Phe His Leu Pro Glu Ser Thr Leu Leu Met Leu Val
290 295 300

Ser Ala Phe Ala Gly Tyr Pro Glu Thr Met Ala Ala Tyr Ala Ala Ala
305 310 315 320

Ile Glu His Gly Tyr Arg Phe Phe Ser Tyr Gly Asp Ala Met Phe Ile
325 330 335

Thr Arg Asn Pro Ala Pro Thr Ala Pro Gln Glu Ser Ala Pro Glu Asp

340 345 350

His Ala

<210> 71
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 71
atgactcgag gcgtggattc aggcaaat 28

<210> 72
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 72
atgagaattc tgccgccgct ttctcgtt 28

<210> 73
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 73
cgctctagac caaggactgc 20

<210> 74
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 74
ccagaagctt ctgtttttga gtc 23

<210> 75
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 75
agtaggatcc tgaaatgtag gggcccgg 28

<210> 76
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 76
agtaaagctt atgatgctgt ttccagta 28

<210> 77
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 77
agtaggatcc tctcgaagga atggagca 28

<210> 78
<211> 28
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 78
agtaaagctt cgtgaagatg catttcgc 28

<210> 79
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 79
agtaggatcc tagtcactga tcgaacgt 28

<210> 80
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 80
agtactcgag ccacgaaata acacggta 28

<210> 81
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 81
agtaggatcc caggactgcc ttccagcg 28

<210> 82
<211> 28
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

<400> 82
agtactcgag cagagcggcg tccgtggc 28

<210> 83
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 83
agtaggatcc agaattgttg aagaaatc 28

<210> 84
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 84
agtaaagctt tgcgctgtta actcatcg 28

<210> 85
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 85
ggggcaccac cattgagaaa agaccttgaa attcaaggtc ttttttttcg tctggtggaa 60
agtggtctga ctgaggctgc ga 82

<210> 86
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 86
ggggcaccac atagcagtat ccagaggtcc caaccagccc cgcaacacca gataaaccgg 60
cccacgagcc ggtttttttg tg 82

<210> 87
<211> 81
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 87
ggggcaccac ctttaaaaaa gaccttgaaa ttcaaggtct ttttttttcgt ctggtggaaa 60
gtgccttgat ccaatcctcg c 81

<210> 88
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. tomato

<400> 88
gcccgggcgt gacgctgccc gggccccgac atttcagtca atcaatgcgc cttcgcaatc 60
ccgaactgat caagcaccgg at 82

<210> 89
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 89
gaaggctcag cattcagggc gtctgagccg actcaattca atcaatgcgc cttgtcaatc 60
ccgaactgat ccagcaccgg gt 82

<210> 90
<211> 82
<212> DNA
<213> Pseudomonas syringae pv. syringae

<400> 90
gaggaagagg cttgaaaaag agttcaacct cttccctgct atcaatgcgc cctgtcaatc 60
ccgaactgat ccagcaccgg gt 82

<210> 91
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: human immunodeficiency virus TAT protein, transduction domain

<400> 91

```
Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
  1               5                   10
```